DOCUMENT RESUME

ED 035 502 RC 004 017

TITLE	Proceedings of a Symposium on the Educational Process and Social Change in a Specialized Environmental Milieu.
SPONS AGENCY	Canadian Dept. of Indian Affairs and Northern Development, Ottawa (Ontario).
REPORT NO	OP-4
PUB DATE	68
NOTE	84p.; Papers presented at the Alaskan Science Conference (19th, Whitehorse, Yukon, Canada, August 28-30, 1968)
AVAILABLE FROM	The Book Store, The University of Alberta, Edmonton, Alberta, Canada ($2.00)
EDRS PRICE	EDRS Price MF-$0.50 HC-$4.30
DESCRIPTORS	Acculturation, *American Indians, Community Change, *Environmental Influences, Eskimos, Geographic Regions, Group Intelligence Testing, *Psychoeducational Processes, *Rural Education, *Social Change, Social Isolation, Symposia, Tables (Data)
IDENTIFIERS	*Northern Regions

ABSTRACT

Four papers examine theoretical and practical aspects of educational problems found in the northern regions of the world, the two major problems being that vast distances separate the small communities and that there are great differences between living patterns of native inhabitants and those patterns demanded by modern society. "The Role and Impact of the Educational Program in the Process of Change in Canadian Eskimo Communities" describes some basic changes in Canadian Eskimo social patterns. "The Influence of the School on Acculturation with Special Reference to Greenland" considers 4 aspects of the school system in dealing with acculturation significance of socialization of children. "Educational Process and Social Change in the Northern Environment" points out that recent findings in the behavioral sciences might be brought to bear on the educational process in northern regions. "Educational Potential of Northern Canadian Native Pupils" outlines a model of the nature and development of intellectual abilities, presents evidence of general intellectual potential and differential abilities of Eskimo and Indian-Metis pupils, and considers 6 psychological influences likely to affect development of various cognitive abilities in different cultures. (SW)

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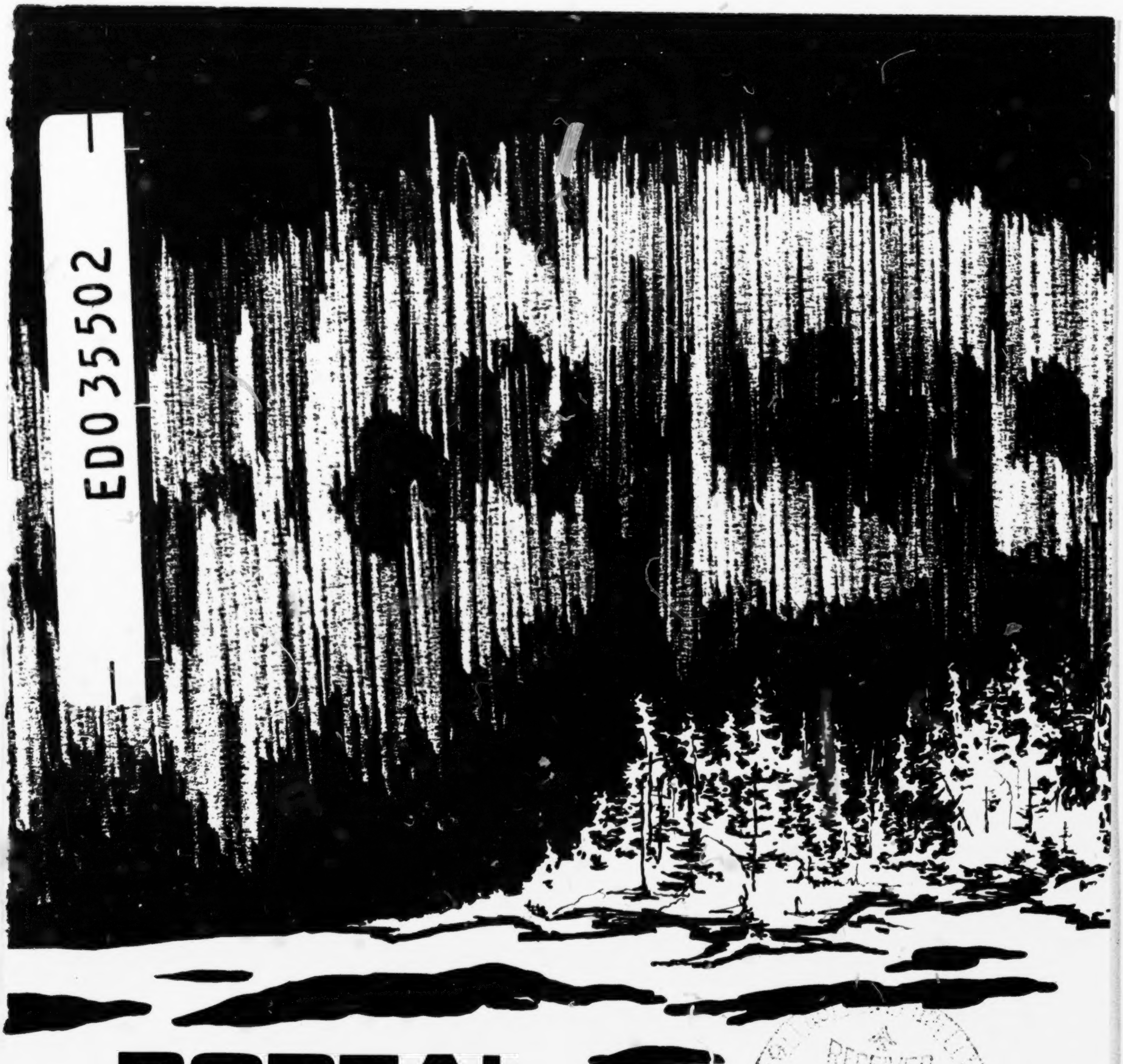

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SYMPOSIUM ON

"EDUCATIONAL PROCESS AND SOCIAL CHANGE IN A SPECIALIZED ENVIRONMENTAL MILIEU"

Chairman: G.K. Gooderham

Contributors: D.W. Simpson
C.W. Hobart
Frank Darnell
R.S. MacArthur

QUAECUMQUE VERA

OCCASIONAL PUBLICATION NUMBER 4, 1968

RC004017
KM 220
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BOOKSTORE
2 $2.00

Acknowledgement is gratefully made to the Department of Indian Affairs and Northern Development for financial assistance towards the cost of publication.

ED035502

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PROCEEDINGS OF A SYMPOSIUM ON THE

EDUCATIONAL PROCESS AND SOCIAL CHANGE IN A SPECIALIZED ENVIRONMENTAL MILIEU

Presented at the

NINETEENTH ALASKAN SCIENCE CONFERENCE
(Alaska Chapter, A.A.A.S.)

WHITEHORSE, YUKON, CANADA

August 28 – 30, 1968

CHAIRMAN
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BOREAL INSTITUTE
THE UNIVERSITY OF ALBERTA
OCCASIONAL PUBLICATION NUMBER 4
1968

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Price: $2.00

INTRODUCTION BY THE CHAIRMAN OF THE SYMPOSIUM

*G.K. Gooderham**

There are two overruling problems that haunt all systems of education across the northern regions of the world. The first is the vast distances that separate communities which are usually small as well as isolated. The second is the great difference between the living patterns of the native inhabitants and the living patterns demanded by a modern society.

These two problems present additional conundrums which must be solved to the advantage of the people being served by the education system: Should one use each native language or one more widely understood as the language of instruction in the school? Is it wiser to bring the school to the pupils or the pupils to the school? Should the school prepare students to take their place in the traditional northern hunting, trapping patterns of the present and past or prepare them for the occupations of the present and future in more populous parts of the country? Do northern school systems require teachers with special training? If so, where will they come from and who will train them? Is the development of special curricula a blessing or a curse?

Present indications are that too few satisfactory answers have been found to these vital questions and this lack has had a profound effect on the prople living in the north. The educational process may not have helped them bridge the gap between the independent world of the hunter and that of the employer or employee whose livelihood depends upon the smooth functioning of a complex industrial system.

The aim of this symposium was to examine both theoretical and practical aspects of these questions and to focus some attention on errors which could be corrected. Recent psychological and sociological findings were presented and discussed as they related to educational problems in the north. A report on the programs and achievements of the educational system operating across northern Canada was also presented.

The most significant conclusions reached may have been that if the educational process is to have relevance to social change both programs and programmers will need to become more flexible and more open to suggestions from the people being served as well as from the social scientists.

***G.K. Gooderham is Assistant Chief Superintendent, Education Services, Indian Affairs Branch, Department of Indian Affairs and Northern Development, Ottawa, Ontario.**

THE ROLE AND IMPACT OF THE EDUCATIONAL PROGRAM IN THE PROCESS OF CHANGE IN CANADIAN ESKIMO COMMUNITIES

*D.W. Simpson, D.K.F. Wattie, et al**

This paper will attempt to describe in broad general terms some basic changes in living and social patterns that have taken place in Canadian Eskimo communities, communities which prior to 1955 had been relatively untouched by formal educational structures and procedures as we know them in southern Canada and in other parts of the western or European World. The year 1955 marked the completion of agreements which set up a basis for establishing a unified system of education for the Northwest Territories and those parts of Arctic Quebec which are inhabited by Eskimos. In general terms these agreements involved three authorities:

1. The Government of the Northwest Territories.

2. Two components of the Federal Government of Canada –

   (a) The Indian Affairs Branch of the Department of Citizenship and Immigration.

   (b) The Northern Administration Branch, Department of Northern Affairs and National Resources.

3. The Roman Catholic and Anglican Churches who had a vested interest in education because of their earlier missionary activities primarily in the Mackenzie Valley but also in some of the coastal areas of the Arctic.

Prior to this time all three agencies had a marginal involvement in education in the North but in total terms a very small proportion of the population was affected by the total efforts of all three combined. Of the approximately 2000 pupils registered in all types of schools in the Canadian North in 1955 only 451 were Eskimos(1) and a large number of these pupils were attending on a part-time basis only. There was little consistency in attendance patterns and the teaching qualifications were minimal or non-existent. From the practical standpoint it can be said that there was virtually no formal education system operating in the Arctic Regions of Canada.

The aforesaid agreement resulted in the establishment of an agency to set up and operate an ethnically-integrated educational system. This system was to comprise not only a school system for primary and secondary pupils but programs for post-secondary pupils including vocational and university

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*The paper was read by D.W. Simpson, Assistant Director, Education Branch, Department of Indian Affairs and Northern Development, Ottawa, Ontario.

education. It was also deemed vital to include as an integral part of the education system programs specifically designed to meet the needs of the adult indigenous people who had never had any formal education. This agency, the Education Division, was attached to the Northern Administration Branch of the Department of Northern Affairs and National Resources. The primary overall objective(2) of this Division was to establish an educational system which would give the Eskimo and other northern people equality of opportunity in education with other Canadians. Complicating the achievement of this objective was the presence of a large segment of the population that originated in southern Canada or European countries whose educational standards, traditions and aspirations were linked with southern Canada. It was, therefore, necessary not only to provide educational opportunities similar to those of southern peoples but also to adapt the content of the curricula to meet the unique developmental needs of people from an entirely different and primitive culture. It is not the intent of this paper to present the story of the development of the educational system nor of its successes and failures in attempting to reach this objective. Suffice to say that the system has been developing in keeping with this overall objective. A major problem in bringing a unified educational system to bear in this land of diverse cultures and languages was and continues to be related to the language of instruction. For several compelling reasons, the language chosen as the medium of instruction was English and initially all teaching was done in this medium from the earliest grades up to the highest. Although a shift in emphasis on languages is now taking place in the primary grades from the English language to the vernacular, this shift in emphasis has been so recent that for the purpose of this paper we can assume that the teaching has been in the English language.

While it is most apparent that education has had a profound impact on the people concerned this paper cannot attempt to measure this impact in degree in all the areas which it attempts to encompass, but it should provide a worthwhile document to researchers and others who wish to pursue in depth studies to measure the degree of impact in various areas. We must caution the reader against the temptation to make comparisons of the impact of education in this particular context with the impact that has been made in southern Canada on a normal population which has been exposed to educational processes over many generations. In the North we must recognize that formal education is a new process; it is affecting a first generation of students. The pupils in the schools are the children of parents who have never been inside school, whose older brothers and whose other immediate relatives have had no knowledge of the school process or other educational activities. Although it is necessary to apply certain standards to measure accomplishment such as grade levels, these measures are not completely valid in this setting and should be treated as approximations only. Consider also that the in-school population is working in a medium of communication which is a second language, therefore, the Eskimo pupil labours under a serious handicap in expressing himself both in oral and written form. Because our measures of academic performance are inextricably tied to language performance there is a built in bias against persons whose mother tongue is not the language of the test. Because the standards which are applied in the normal situation are thus distorted by language and cultural bias inherent in these norms,(3) it is evident that the results reflect the minimum pupil performance.

The term"community" has undergone a profound change during the period in which the education system has been in operation. The traditional Eskimo settlement was a small camp temporary in nature comprising a handful of families usually closely related one to another. The locale of the settlement would change from time to time depending on the vagaries of hunting, fishing or trapping. Within the past decade there has been a pronounced trend towards living in larger urban settlements with abandonment of the traditional small hunting settlement off in the wilderness. This trend has become most pronounced in the past three or four years since the advent of housing schemes for the Eskimo and the wide-spread adoption of the motorized toboggan for transportation to and from the hunting grounds. The school itself has been not the least of the influences bringing about this trend towards urbanization. The increasing governmental role in the North, as well as the improved transportation and the amenities now available in the larger settlements, are other potent factors contributing to this movement.

It is the intent of this paper to deal with the Eskimo population as a whole including all those communities in the Northwest Territories and Arctic Quebec where a significant number of Eskimos are living. The Eskimo population of Labrador and Ontario however are excluded. It does include communities where there is a mixed population of Indians and Whites such as at the treeline communities of Inuvik, Aklavik, Churchill, Great Whale River and Fort Chimo. The main emphasis however will be on the purely Arctic communities outside the treeline. The need to avoid generalizations and subjective evaluation for which no positive scientific proof now exists has placed limitations on the breadth of coverage and excludes a number of interesting fields of investigation. The impact of the educational programs will be studied in the light of their effect, first, upon the individual, then the family and lastly the community.

I. THE IMPACT OF EDUCATION ON THE INDIVIDUAL

At the outset, we should point out that even at this date there are still approximately 600 Eskimo children of school age not attending school because no schools or pupil residences have yet been established for them, and without these facilities they have as yet been unaffected by the education program. In itself this figure is revealing because in 1955 there were almost 2000 Eskimo children of school age who were out of school and, therefore, the great majority of young Eskimo people (83% of the school age population) was being denied an education of any kind in the formal sense whereas today only 17 per cent is still denied this opportunity. Notwithstanding this improvement, the very recent establishment of schools in many settlements has limited the impact of education to a very narrow segment of the population, namely, the school-age group.(4)

Inasmuch as the traditional Eskimo language comprised several regional dialects and had no written form, the Eskimo people had, prior to World War II, a parochial view of the world because communication was limited to the spoken word within a small community. The advent of the school is changing this by making available to him the communication tools of writing, reading and calculation which he formerly lacked. In addition, it is giving him a common medium of communication, namely, the English language with which he can communicate with other Eskimos in all parts of the Arctic, in spite of dialectical differences. The tools of reading and writing give him access to newspapers and books which widen his mental horizons. It is true that the adoption of syllabics made available to the Eskimo by the missionaries took the initial step in this direction at least from the standpoint of the Church service, with the hymns and prayers written in syllabics, and did allow him to communicate in writing to a limited extent with other Eskimos speaking the same dialect. However, the learning of reading and writing in the English language broadened his communication skills tremendously. The impact of literacy is most apparent in the school-age population but it is only measurable as to level in those who have attended in the past few years.

Although no statistics giving grade placement in schools is available for the Eskimo population for 1955, it can be assumed from the fact that only 327 or 17% of the school-age population was in even partial attendance in school that the literacy level of the population was so low as to be of little significance. In the school year 1966–67,(5) by comparison, there were 3,343 Eskimo pupils in school of whom approximately one-third were placed in the pre-school, beginner, Grade I or ungraded vocational training levels.(6) Their teachers placed the remainder of the Eskimo school pupils according to achievement levels as follows:

Grade II – 513
Grade III – 495
Grade IV – 435
Grade V – 252
Grade VI – 134

1,829 – Grades II – VI inclusive

Grade VII – 70
Grade VIII – 35
Grade IX – 25
Grade X – 19
Grade XI – 9 (Junior Matriculation)
Grade XII – 6 (Senior Matriculation)
= 164 – Grades VII – XII inclusive

TOTAL – 1,993

This grade distribution indicates that in 1966–67 almost 2000 Eskimo children then in school had achieved some proficiency and facility in reading, writing and oral communication in the English language and that about half of these (985) – those in Grade IV and above – could converse, read and communicate in writing at a level that would allow them to be considered fairly literate in the functional sense in a northern setting. Of these, 164 have reached a level enabling them to anticipate with some degree of optimism the successful completion of a secondary school education or of achieving sufficient academic background to take a vocational education course.

The question of whether the teachers' placement of pupils is realistic is a valid one. An indication of the accuracy of placement in relation to achievement level in Word Knowledge, Reading, Spelling Language, Arithmetic Concepts and Computations, and Social Studies can be gauged by the results of a testing program conducted in November 1966 for a cross-section of Grade II, IV and VI Eskimo pupils.(7)

The results of these tests indicated that in all but one of the above categories, Eskimo pupils in Grade II had reached an average Grade II standard and with the one exception, spelling, their average was only slightly below the 1.9 level. The Grade III results in the various categories ranged from a grade level of 3.4 to 5.1 – again spelling was the low mark. A similar or wider range of achievement could be expected in a non-Eskimo school in the south. The grade levels attained by Grade VI pupils ranged from 4.1 to 6.5 – but in this case, spelling was high while Social Studies was more than one full grade level lower. Actually the next lowest average was for Word Knowledge at 5.3. All other categories ranged from 5.6 to 6.5, a most uniform achievement just slightly below the registered grade level which would have been 6.2 – 6.3 in November when the tests were given. The results of this survey indicate that it is valid to infer that the registered grade levels accurately reflect academic achievement and that Eskimo pupils are reaching an educational level which in the North, for the immediate future, will enable them to be considered to be functionally literate. This is the immediate task of the school and the area in which education can be considered to be making its greatest impact on the individual.

One does not need to stretch the imagination to envisage the great significance of this fact. The achievement of functional literacy allows the individual to participate in further education or training, to gain employment, albeit at a low level, to read instructions permitting him to operate machinery or motorized vehicles, engage in commercial transactions and participate in political activities. He can enrich his mind by reading. He can travel to other communities with greater self-confidence if only because he can read safety rules or traffic signs to avoid accidents. For employment in any significant enterprise it is a first essential. Not the least important are the psychological benefits resulting from the enhancement of his status, and the boost to his self-respect he gets by mastering a process formerly monopolized by the White man.

To assume from the above data that Eskimo children are achieving in school as well as other Canadian children is to disregard other important facts. Another vital dimension of their attainment is the age at which these children achieve the grade levels registered above – here we find a great disparity. Nowhere do they approach in any significant numbers the Canadian average. Great caution must be used in analyzing these data because a very large proportion of Eskimo pupils have not had consistent schooling during the normal period of childhood either because schools were not available or because their attendance patterns were irregular. The obvious and most important causes of age-grade retardation are based on their inadequate knowledge of the language of instruction and the socio-economic disadvantages of their homes and families.

Atypical instances of normal school progress are evident, however, and one Eskimo youth, a product of the northern school system, has completed a university degree in Arts and Science at the University of Manitoba and is now studying medicine. In one Quebec settlement where the school has been in operation only nine years I met a 14 year old Eskimo girl whose total education was in that school and who was successfully doing Grade IX work. She had progressed one grade per year in spite of the language handicap. Of the 164 pupils registered in grades VII to XII inclusive in 1966–67, however, only 26 were within the normal two-year age span and another 85 were within the next higher two-year age span. The total of these two groups, 111 pupils, could be considered as having potential for further education or training at the secondary or post-secondary level. The establishment of pre-school classes to help remedy the language deficiency prior to entry of the child into the formal school situation and the greater use of English in home and community should bring about a marked improvement in school performance and enhance the chances of the Eskimo child maintaining an average rate of progress in his academic studies.

During the most recent four-year period for which data is available the proportion of pupils within the normal age-grade span has increased by 9.5 per cent. If progress continues we can look forward with reasonable optimum to having a group of Eskimos ready for higher education within the foreseeable future. The impact of even a few professional Eskimos in the North would be tremendous. This fact was brought home to me recently while reading a report by a prominent psychiatrist who conducted a mental health survey at Frobisher Bay, in which he outlined the serious handicaps he encountered interviewing referrals through an interpreter. His and several other vital jobs dealing with the Eskimo people cannot be adequately performed by non-Eskimos who can communicate with their patients or clients only through an interpreter.

The age-grade tables list 172 pupils 12 years of age and above as taking vocational training in school. These pupils have not been graded academically because they are in ungraded classes taking half-time academic upgrading and the other half in vocational skill training. These pupils, the vast majority who are in the 14–19 age-group, have been selected because their age-grade achievement indicated they could not achieve secondary school graduation and would drop out of any regular school program available to them. On completion of three or four years of school these youths are given the opportunity of entering employment, of furthering their training as apprentices, or of training on the job. A few have managed to upgrade their academic level to the point where they can be admitted into a normal secondary vocational education course. For the young adult who has left school with a low level of skill or none at all, vocational training courses are given either in the north or in a variety of schools and institutes in the south ranging from business colleges to trades schools and colleges. In view of the importance of the impact made by trained individuals on the community, the details of these programs are given in the portion of the paper dealing with that subject.

Within the school program itself, a number of vocational skills are taught beginning at the Grade VII level, or at a lower level with older pupils in the Industrial Arts and Home Economics courses. Emphasis has been placed on developing and improving the skills required for successful living in the home communities. Girls have been taught to make mukluks, kamiks, duffle articles and to prepare both indigenous and "southern foods." They are taught how to shop, to care for children and sick people and to select nutritious foods. Boys are taught trapping, fur preparation, repair of outboard motors, snowmobiles, carpentry, repair of small electrical equipment, welding, metal work and carving.(8) They are also introduced to a broad range of materials and substances such as plastics, ceramics, and various metals. The introduction of the Eskimo to the technology and materials of a modern society at the early secondary school level allows him to explore this field where he may secure employment later in life, whereas the inclusion of traditional skills is intended to help him retain both a pride in his heritage and some capability for usefulness if he returns to a traditional way of life at home.

The school has provided a social experience different from anything in the Eskimo culture. Here large numbers of young people from a wide area are given the opportunity to communicate with each other, (particularly in the larger schools where they are residing), to develop a broader view of the Eskimo group, and to be exposed to a new culture and social system. In such situations people are more receptive to social innovations and changes of routine. When the schooling is accompanied by residence away from the family in a large pupil residence, the social implications are most significant and the acculturation process is greatly accelerated. The Hobart–Brant report gave prominence to some unsatisfactory results of such rapid acculturation and its psychological and social impact on the individual and the family. Notwithstanding such unfortunate results, other positive aspects of this program are readily apparent although largely unpublicized.

In 1955 also, there were five small residential day schools with a total Eskimo enrolment of 176. Today, nine large pupil residences are in operation at Inuvik, Fort McPherson, Fort Simpson, Yellowknife, Fort Smith, Chesterfield Inlet and Churchill. There are also 13 small cottage-type residences in communities where children living beyond commuting distances from the school can be accommodated and will be close to their families and friends. The total Eskimo enrolment in the large pupil residences in 1967–68 is 660 and an additional 97 pupils are in the smaller-type residences. It is interesting to note that, in 1955, 39% of the total Eskimo school enrolment was accommodated in pupil residences, while this year only 20 per cent of the total Eskimo enrolment live in residences. At the present time all but 165 of these children are over the age of 12. Only 63 children in the year 1967–68 were under the age of 10 years. The policy of placing elementary schools in small settlements has had a marked effect on reducing the numbers of younger children in residences, with the result that the time when no child under 13 years of age is in residence is fast approaching. The sparsity of population in the North enforces the need for residences at the junior and senior secondary school level which, no doubt, will continue for the foreseeable future.

The social impact of education on the individual can be observed in any Arctic settlement. In some instances, the education process is the sole causative factor – in others it is either a major or minor contribution to the social change taking place. The rapid trend towards urbanization is in many instances a direct result of the establishment of a school in a small community. When Eskimo families move into permanent houses in such a community, they abandon or severely modify their former nomadic life. Their former isolation is broken and depending on your point of view a whole new regimen is either imposed on them or opened up to them.

II. THE IMPACT OF EDUCATION ON THE FAMILY

With the encroachment of formal education has come the greater need for routine and scheduling of living process, from eating and sleeping to going to work on time. The impact on family life is one of far-reaching consequence. The school schedule itself is a model of routine and teachers are continually emphasizing the importance of regular habits in eating, sleeping and coming to school. Although lateness is still a problem in some communities, Eskimo attendance is between 90–95% of the enrolment which compares favourably with provincial figures.

The School Lunch Program provides at least one nutritious meal daily and lunches are provided in 33 Eskimo communities to about 3,000 children or 70% of the Eskimo enrolment. The costs of the School Lunch Program has risen from about $10,000 in 1955 to over $60,000 today. Wherever possible native foods are used and parents prepare the lunches. Children are also given daily vitamin pills and biscuits in the school. By this example mothers are encouraged to apply dietary and nutritional principles in planning family meals. An idea of the food consumed by Eskimo families is given by a Health and Welfare report comparing food records in 1965–66 between the traditional settlement of Coppermine and the more sophisticated community at Frobisher Bay. The findings show a greater dependency on native food at Coppermine and greater amounts of store food purchased at Frobisher.(9)

The pupil residences also foster standards of regularity in eating and sleeping, cleanliness, clothing, diet and study habits. The large residences operate under modern living conditions and are located in centres with regular services and recreational facilities. Because of the gap in standards between the pupil residence and settlement living some pupils find it difficult to readjust to home conditions. The values acquired by the young people in school and residence sometimes leads to misunderstanding and hostility between Eskimo parents and children. Such conflict is new in Eskimo society as previously children accepted without question the authority of their parents and other adults. Thus the new attitudes of independent thought and action among the young are confusing and disturbing to the older generation. At school, children are acquiring knowledge and skills which their elders have never acquired and which are no part of the traditional cultural background. At Coppermine, for example, of the population aged 20 years and over (188), only 50 had ever attended school and of these one-half had attained no higher than Grade III.(10) Of today's Coppermine children, about 100 are in Grades I–III and 30 in Grades IV to VI with about a dozen taking post-elementary and vocational training. Other Eskimo settlements have similar figures, although Coppermine has relatively fewer in vocational training than other [illegible]s.

Current parent-child tensions result in part from the higher priority given to children's education since 1955, in relation to the later shart of the adult education program. The advent of housing education and the emergence of a better educated adult generation will help narrow the existing generation gap, at least with respect to knowledge and skills. Although a number of anthropological studies have made reference to the behavioural problems of Eskimo children there is a serious lack of objective data on current Eskimo family relationships. Here is one area requiring research treatment in depth for a meaningful assessment of a major social and psychological problem area.

In the traditional division of work of the hunter-trapper family the man hunted and skinned the animals, the women treated the hides, made the family's clothing and prepared the meat and other members of the family performed their appointed tasks without question. Today the roles and relationships are less straightforward. Fewer men are hunters, and fewer fathers teach their sons how to hunt. Instead, they encourage children to attend school to acquire the learning and skills essential for wage employment. The techniques of operating a house with plumbing, sewage, electricity, oil, heat and unfamiliar household equipment, of handling money to pay the rent, to buy clothes and food and the proper use and preparation of new packaged or canned foods are some of the new demands adding to the complexity of the woman's role.

To develop these essential homemaking skills, Home Economics instruction has been made available in all schools starting in the Grade VII level. In 1955–56 there were no facilities for this instruction in Eskimo communities. Today there are nine Home Economics laboratories equipped for courses in Home Management, Child Care, Home Nursing, Nutrition, and Clothing Construction. Last year 226 Eskimo girls took Home Economics courses in school and, in addition, special basic programs in homemaking and related activities were provided to young women and adults with little or no formal education.

Wage employment opportunities have opened the door to new types of careers for Eskimo girls and women. In the past year, 19 girls were trained (and are now employed) as classroom assistants; nine as typists; four as commercial cooks; 11 as homemakers' assistants; two as nurses aides; 10 as fabric and upholstery workers; 13 as handicraft managers; and 82 are attending vocational or occupational classes where instruction is related to, and correlated with, employment opportunities.

The education and training of girls has brought about a noticeable increase in the degree of independence of the older teen-age girls who are increasingly making their own decisions regarding their deportment, dress and leisure time activities. One may not always agree with their decisions, of course, and they require help in developing a sense of responsibility for their actions, particularly when they are away from parental control for part of their time. The number of early marriages and arranged marriages is decreasing while the incidence of Eskimo girls choosing marriage partners of a different race and culture is increasing.

The one educational program of direct concern to Eskimo families is the housing education program conducted in association with the Canadian Government's Low Rental Housing Program for Eskimos. Twelve million dollars was voted for this program which since 1966 has provided a total of 534 houses in Eskimo communities with another 275 planned for this year. These are three-bedroom houses of about 700 square feet in area. The rent, based on income, includes fuel, power, water, and sanitary services. Each house is equipped with basic furniture, dishes, cutlery and cleaning equipment. The housing education program has been assisted by grants, to date, of $287,000 from the Canadian Central Mortgage and Housing Corporation. These funds have provided staff for field work and the publication of materials in simple English and in Eskimo syllabics. Before the houses arrive, housing educators are sent to live in the settlements where they remain during the construction and initial occupation of the houses. So far 28 housing educators including three Eskimos have been employed. They have worked with over 1,000 Eskimo families in 20 communities in the two-year period (1966–68). Eskimo homemakers are trained in the use of unfamiliar electrical appliances, cleaning equipment, basic nutrition and the use of adequate warm clothing to replace the traditional fur garments seldom worn by the northern Eskimo.(11)

The housing education program has four phases. In Phase I lasting from three to six months prior to house construction, each Eskimo family has the low-cost rental housing program explained to them, especially the terms of the rental agreement. Phase II which takes place early in the house occupancy period, prepares people for changes in patterns of living and helps them with the care and management of the home. Group meetings and home visits are used to present information over a period of three to six months. Phase III prepares the tenants for managing the low-cost rental housing through a housing association. Phase IV is still at the experimental stage and may replace Phase II on care and management of the home employing local personnel. The program consists of group meetings, home visits and packaged programs containing materials for distribution. This phase marks a planned decentralization of the program and is a prerequisite for follow-up work

It is too early at this time to assess the impact of the Housing Education Program on Eskimo family life, however, reports from the field indicate certain trends and the following items have appeared in recent reports.

The home is still the woman's domain but her tasks have increased with the larger house and greater understanding of food needs, health and sanitation. Because a heated house limits the use of skin clothing, women have become interested in and seek advice on buying ready-made clothing and material. The number of instances of curtains being made, shelves being added to the kitchen and bathroom, packing cases being made into furniture indicates a healthy pride in their new homes. Furniture and equipment also have been ordered for delivery on the sealift. Children are using bedrooms for play and reading. In one settlement 18 families jointly ordered plastic mattress covers in order to obtain a bulk-purchase discount. Food is being cooked in the oven and Eskimo families are entertaining non-Eskimos in their new homes. A more active interest and greater participation in community affairs are generated as the Eskimo men and women attend meetings of the Housing Associations. Education has become more than schooling and more than learning to read and write. The adults are beginning to see it as a way to a fuller life.

The Impact of Education on the Community

The Housing Education Program is an example of the importance given by educators to the needs of the Eskimo community as a whole. Accepting community responsibilities outside the school but related to the work and purposes of the school is implicit in the northern community development policy. Teachers in Eskimo communities play leading roles in community work, make visits to pupils homes and travel to outlying camps. In 1955 when many Eskimo camps were outside the main settlements itinerant teachers taught school in the larger camps during the summer months, but the abandonment of the camps during the past few years has made these summer classes less necessary. Where there is no Area Administrator, the school principal carries out administrative functions for the community as well as his teaching and community duties. The opening of schools in smaller communities and the expansion of government services and operations has increased the number of teacher administrators from six in 1955 to 13 in 1968.

What is taught in the school program is of major significance to the whole Eskimo community. Although education must fit the present generation for living in our modern technocracy, the course content of the educational program must be familiar to Eskimo pupils. Thus, the curricula of provincial education systems is used as a base with specific adaptations to the Eskimo way of living and the local northern setting. Curriculum materials are published to assist teachers in Eskimo communities in adapting particular courses to the local setting.(12) Work is now well advanced on a scientifically based program of oral English and the publication of a series of northern readers as two components of a comprehensive, integrated English language course for the primary grades.

The employment of Eskimo classroom assistants in settlement schools brought about by the need to educate Eskimos in the English language marked the beginning of the Eskimo people's personal involvement in education. In 1958 two Eskimo assistants were employed. By 1965 there were 11 and today the number is 37. Under the direction of the teacher these Eskimo youth work with the younger children in their own language interpreting class routines, giving word meanings and other instruction. There is little doubt that the presence in the classroom of an Eskimo assistant provides much security to the beginning pupil still unaccustomed to his new English speaking milieu.

The use of English as the language of instruction in the schools and as the language of commerce has significant implications for the Eskimo community. A person with a command of English becomes the link between the Eskimos and the English speaking group in the community. Since the people depend on these interpreters to have their thoughts and wishes expressed to the authorities, they assume a special role in community affairs. Thus, leadership is no longer restricted to the skilled hunter, but may be extended to those who communicate effectively with the English speaking authorities.

The use of English is also important in commercial activities. A co-operative, whose manager has a command of English, is in a favourable position through better information services on marketing and accounting and is independent of non-Eskimo assistance. The results of a test given in Eskimo to co-operative managers at a recent industrial conference showed that only the two managers who knew English (of a total of 16) understood clearly the basic concepts of co-operative management. At this particular conference also the younger men were the most outspoken nor was their aggressiveness resented by the older men as might have been the case in past years. As the Eskimos are essentially a pragmatic people there is little doubt that schooling and vocational training will see in a few years the existing power and authority structure replaced by one in which educational standards will be the most important criteria for accepted leadership. A number of different studies illustrating the current picture of wage earning opportunities in Eskimo communities support this view. Recent information this year from the Hudson's Bay Company shows that the number of Eskimos employed by the company in Eskimo communities is 154, which is 49.3% of the company's total employees in Eskimo communities. Last year's Manpower Survey at Coppermine showed a total labour force of 132 persons with 43 listed as wage earners and 30 who reported they were looking for work and 59 out of town on fishing and hunting excursions. A 1966 area survey of eastern Baffin Island shows that about 65% of earned income was from wages, a decided shift from the former economic base resulting principally from DEW–Line employment and Government construction projects. A 1965 area survey of the Hall Beach – Igloolik areas shows that from a total of 63 families about 26 men were in regular full-time employment and of the total cash income less than one-half was derived from wages. The wage earning positions were that of janitor, assistant mechanic, Hudson's Bay Clerk, and handyman, interpreter, special constable and housemaids, plus 12 men on DEW–Line sites. Ship unloading and construction provide some casual seasonal employment. In their Frobisher Bay study, 1962–63, the Honigmann's reported one-third of the Eskimo townsmen steadily employed.

In apposition to the retention of status and influence in the community by the skilled hunter an increasing degree of prestige and leadership is bestowed upon the Eskimo who has achieved vocational skills enabling him to hold wage employment.

Quite apart from the changes it is bringing to bear on community leadership patterns, the educational program contributes significantly to the development of local industry by providing training in a number of different fields. In the fur garment industry at Aklavik, Tuktoyaktuk and Holman Island over 50 Eskimos have been trained in fur garment work and another seven people were trained for the tannery at Aklavik. Recently six Eskimos returned from training in fish processing and canning in Newfoundland to work at the fish cannery at Daly Bay. At Inuvik there is a boat building and repair shop and 45 people have been trained for this work.(13) At the present time, there is a total of 15 Eskimo apprentices, one clerk, six mechanics, five electricians, two carpenters and one plumber distributed among nine communities.(14) The provision of education and training in other centres for Eskimo youth is causing an ambivalence among the Eskimo population – a reluctance to lose their young people along with the recognition of local limitations on opportunities continuing education and future employment. Job training and subsequent relocation may also change other established community patterns. So far the major relocations of Eskimos have been, from Rankin Inlet to the mines of Yellowknife and Lynn Lake, Manitoba, and from the Central Arctic to the Great Slave Lake Railway, Yellowknife. In the first phase of his relocation study of these groups, Stevenson interviewed a total of 105 Eskimos representing about 40 families and 40 single people.(15) While his study is primarily concerned with the adjustment of these Eskimos to a new environment, the direct and indirect effects of their removal on their home communities would be worthy of study.

Of direct interest to the Eskimo community has been the formation of housing associations as part of the Housing Education Program. To date, Housing Associations have been incorporated for the eight settlements of Broughton Island, Cape Dorset, Frobisher Bay, Hall Beach, Igloolik, Pangnirtung, Baker Lake and Eskimo Point and another six applications have been received from Grise Fiord, Lake Harbour, Pond Inlet, Resolute Bay, Rankin Inlet and Pelly Bay. In many of these settlements the location of housing and the establishment of individual rental charges have been assumed by the Councils. Contracts are being awarded to some Housing Associations for the supply of water and garbage services and the delivery of fuel. In Igloolik, Whale Cove and Pelly Bay, Eskimo co-operatives have been awarded contracts to construct rental houses; other co-operatives in Gjoa Haven and Holman Island have requested similar agreements. Community health programs have done a great deal to improve community health and sanitation while courses on health education and home economics in the schools and pupil residences reinforce the practice and teaching of the health authorities. Prior to 1955 health and sanitation practices were virtually non-existent in most Eskimo communities, but today however there is concern even for personal cleanliness. There is less sharing of eating utensils, water purification is generally practiced, household cleanliness has improved and fewer seals get cut up on the kitchen floor. A measure of improving health and sanitation standards is the decrease in the infant mortality rate among Eskimos from 210 infant deaths per 1,000 live births in 1955 to 100 in 1966.(16) The number of new active cases of Tuberculosis among Eskimos has declined also from 110 in 1960 to 80 in 1966. Judging also from the clean, neatly kept homes of former pupil residence students who are married and living in their own homes it is clear that the standards taught in the pupil residences remain with most of the students after they return home.

In most communities the school has become the centre of recreational and cultural activity. The evening classes in handicraft work, English language and other subjects, as well as movies, meetings and dances are means both of integrating different community groups and generally broadening the social and cultural horizons of the community members. A recent report from Port Harrison for example, shows that the school there has been used for adult education work, council meetings, religious services, youth groups and as a hospital ward during epidemics. The kitchen facilities of the school have been particularly important for community activities, especially at Christmas and other festive occasions. More recently in some communities as new community halls and other buildings release the older buildings for community activities, the school has declined in importance as a recreational and cultural centre. Eskimo Councils are taking over these new halls and running movies and other events for community funds. Naturally where facilities are available, community halls offer greater scope for community organization than the classroom of a school. The teaching staff however continues to play an important planning and leadership role in community affairs whatever facility may be used.

Radios, records and attendance at the pupils' residences have brought changes in the songs and dances of the Eskimos who now respond enthusiastically to modern dancing and the beat of electric guitars. Folk songs in modern lyric form and relating to contemporary scenes and events are being composed in the Eskimo language. The liking for modern music provided by the local radio is reinforced when young people return from the pupil residences where they have had exposure to records and to the tastes of their non-Eskimo friends.

As regards sculpturing, there is little to add to the existing publicity of the Eskimo carving enterprise. In the field of art a few Eskimo students now attend art school and two of these have made notable illustrations for curriculum publications during their summer employment periods in Ottawa, and last year a Cape Dorset girl won a design award from the Italian Government.

To some extent curriculum policy incorporating, where possible, elements of local culture in the units of instruction, is helping to keep the younger generation of Eskimos aware of the history and progress of their own people. The curriculum publication, Eskimo Games, is one example of this. Also Eskimo culture content has been built into the lessons, the songs and the puppetry of the new oral English program and the new reading series. A simplified history of the Eskimo people produced by the Adult Education Section will soon be published in both Eskimo and English.

Another educational effort directly related to Eskimo culture is the development of a standard orthography of the Canadian Eskimo language. Publications which have been published in the new system of writing include the Q–book, a kind of family encyclopedia, a short story "The Little Arctic Tern and the Big Polar Bear," written and illustrated by a young Eskimo woman, and an autobiography and a diary of two well-known Eskimo hunters. A draft copy of an Eskimo dictionary with some 4,000 root words using the new orthography has also been compiled.

The new system of writing will co-exist with syllabics and in time, perhaps, replace syllabics as a more accurate and practical method of writing for the Eskimo population which more and more is becoming bilingual and thus involved with the Roman alphabet in either the French or English languages.

SUMMARY

This paper is a descriptive survey of the role and impact of the educational program on the individual on the family and on the community in Canadian Eskimo settlements. It is meant to provide a document to researchers who wish to pursue further studies of the various areas rather than to formulate a precise measure of particular hypotheses.

From the available evidence the most significant outcome of the educational program to date has been that almost all Eskimo children now attend school regularly and have achieved some proficiency in the English language and that about one-half of these may be considered functionally literate in the northern setting. The schools and pupil residences have made a strong impact also on the social and cultural development of the Eskimo community by the extensive exposure of Eskimo young people to the knowledge values and living patterns of Canadian white society. A broadly based program of vocational education has provided vocational and occupational training for wage employment both in the North and in the South. The low educational level of older youth and adults, however, limits present numbers of Eskimos in the trades and professions and it is these levels of work which is most needed in present day Eskimo settlements.

Finally the current program of housing education is providing support to the adult Eskimos in the acceleration of urban life which is taking place and which has been brought about by the low rental housing program and the increasing need for wage employment. In its turn, this program of adult education is reinforcing what the young people have been learning and acquiring in school and pupil residence in the past few years and is thus helping to bring about greater harmony in today's dramatically rapid, social and cultural growth of the Eskimo people.

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APPENDIX A

CANADIAN ESKIMO FULL–TIME ENROLMENT IN SCHOOLS IN ESKIMO COMMUNITIES, 1955–56 to 1967–68

Community	1955–56	1960–61	1967–68
MACKENZIE DISTRICT			
Aklavik	216	49	81
Cambridge Bay	—	39	76
Coppermine	38	33	121
Gjoa Haven	—	—	49
Holman Island	—	—	53
Inuvik*	—	352	394
Pelly Bay	—	—	23
Reindeer Station	—	17	20
Spence Bay	—	21	50
Tuktoyaktuk	45	63	115
ARCTIC DISTRICT			
Arctic Bay	—	30	46
Broughton Island	—	19	65
Cape Dorset	44	33	115
Clyde River	—	10	53
Frobisher Bay*	—	178	327
Grise Fiord	—	—	28
Hall Beach	—	—	31
Igloolik	—	34	97
Lake Harbour	—	—	26
Padloping	—	—	16
Pangnirtung	—	20	135
Pond Inlet	—	19	96
Resolute Bay	—	25	42
Port Burwell	—	—	29
Belcher Islands	—	15	25
Baker Lake	—	84	151
Chesterfield Inlet	35	101	114
Coral Harbour	18	52	65
Eskimo Point	—	30	123
Rankin Inlet	—	138	121
Whale Cove	—	23	40
Fort Chimo	22	94	77
George River	—	—	46
Great Whale River*	—	84	125
Ivuyivik	—	22	22
Koartak	—	11	18
Payne Bay	—	31	46
Port Harrison	23	26	78
Povungnituk	—	103	144
Sugluk	—	55	62
Wakeham Bay	—	36	37
	441	1,847	3,382

*Schools in which significant numbers of Indians or others are enrolled in addition to Eskimos.

APPENDIX B

CANADIAN ESKIMO FULL–TIME ENROLMENT IN SCHOOLS IN NON–ESKIMO COMMUNITIES, 1955–56 to 1967–68

	1955–56	1960–61	1967–68
MACKENZIE DISTRICT			
Fort McPherson	—	—	3
Fort Simpson	—	—	28
Fort Smith	3	—	9
Hay River	—	—	5
Yellowknife	—	—	23
Fort Resolution	7	—	—
ARCTIC DISTRICT			
Churchill, Manitoba	—	—	268
TOTALS	10	—	336

APPENDIX C

CANADIAN ESKIMO SCHOOL–AGE ENROLMENT NORTHWEST TERRITORIES AND ARCTIC QUEBEC

Year	Actual Eskimo Enrolment*	Percentage of School-Age Eskimos Enrolled
1955–56	487	17.
1960–61	1,867	56.6
1966–67	3,366	83.

*As of January 31.

APPENDIX D

AGE–GRADE DISTRIBUTION OF ESKIMO PUPILS AS OF JANUARY 31, 1967

	Age															
Grade	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total
V.T.								1	1	13	29	44	40	25	19	172
I	70	355	334	187	95	45	27	27	17	9	11	1				1,178
II			20	154	132	98	47	25	21	6	7	2	1			513
III				18	91	102	101	80	48	27	17	5		4	2	495
IV					21	66	80	94	67	47	37	14	7	2		435
V					1	11	25	79	44	39	34	13	4	1	1	252
VI							5	12	29	44	23	12	3	5	1	134
VII								4	14	14	17	9	8	2	2	70
VIII									2	7	8	7	5	1	5	35
IX										1	7	3	7	3	4	25
X											1	4	4	6	4	19
XI													1	6	2	9
XII													1		5	6
	70	355	354	359	340	322	285	322	243	207	191	114	81	55	45	3,343

APPENDIX E

AIMS AND OBJECTIVES OF NORTHERN EDUCATION – A SUMMARY

A. General Objectives

1. The extension to all school-age pupils in all parts of the Territories, including northern Quebec, equal educational opportunity for elementary and secondary schooling.

2. The extension of this education as a completely ethnically integrated system in such a way as to involve all the children of all the people, value each child equally with any other and offer all the opportunity of a systemized full bodied meaningful education under the best conditions practicable and to the fullest extent to which each child by his interest, abilities and propensities is able to achieve.

3. The extension to all pupils who are successful in gaining university entrance standing in the schools of the Territories, the financial means by which they may gain a university education.

4. The provision of vocational education and training of various kinds for interested persons.

5. The encouragement of adult education to all who are interested and willing to participate.

B. Specific Objectives

I. GENERAL EDUCATION

1. The provision of curricula composed of courses of studies based upon the curricula of the provinces of Canada with modifications, adaptations and additions prepared and developed conjointly by curriculum specialists, principals, teachers and others, the materials of which are related and pertinent to the setting in which the learning is to take place. In general, the basic foundations for the curricula are:

   (a) In the Mackenzie similar to that of the curriculum in the Province of Alberta.

   (b) In the Keewatin similar to that of the curriculum in Manitoba.

   (c) In Baffin Island similar to that of the curriculum in Ontario.

   (d) In Northern Quebec similar to that of the curriculum in Quebec (the curriculum of the Protestant Committee).

2. In the application of all of these, the basic aim is to transmit the culture and a knowledge of all the arts and all the crafts of all the ages in terms of the most advanced knowledge applicable at this level, which includes the encouragement of good citizenship, the development of ethical character, the inculcation of certain positive habits of conduct and behaviour, the development of intellectual power, emotional stability and critical thinking, as well as the acquisition of knowledge and fundamental skills, good health and sanitation and a positive attitude toward the dignity and worth of human labour. In the application of these objectives, provision is made for the recognition of individual differences and differentiation of instruction according to the needs, abilities and interests of the pupils.

II. HIGHER EDUCATION

To offer opportunities to able students to extend and broaden their education by attendance at universities throughout the Dominion and by such education to equip them for leadership roles in society in general and in the Northwest Territories in particular. In some cases this advanced education is preparatory to further vocational or professional training, in other cases, it is largely vocational in nature.

III. VOCATIONAL EDUCATION

1. To offer to participants an understanding of the world of work

2. To provide basic vocational education and training which leads directly to employment.

3. To upgrade workers so that they may achieve and operate at a higher level of performance.

4. Through training to improve the earning power of the gainfully employed.

5. Wherever necessary, to provide, in association with vocational training, academic upgrading so that trainees may gain greater insight, knowledge and skill in the work they perform or are competent of performing.

6. To provide guidance to trainees in the matter for preparation for training, training itself, including apprenticeship and ultimate placement in the world of work.

7. To provide, in association with all vocational training experiences in social adjustment and social understandings so that the accul-

turation process, where necessary, is intelligently recognized and dealt with in respect of each individual in the most effective and productive manner.

IV. ADULT EDUCATION

1. To offer all adults in the Northwest Territories regardless of age or previous experience, the opportunity to grow in knowledge and understanding, to acquire new skills, to experience new dimensions in human relations and democratic living and to develop potential leadership through systematic and continuing adult education programs.

2. To develop adult education programs for adults which are based on the needs of the people and which recognize the various stages they are at in the process of acculturation.

3. To provide a wide range of experience through group and community activities which help to expand the adults' knowledge and understanding of self-government.

4. To provide basic or fundamental education for the many adults in the N.W.T. (including the Indians, Eskimos and Metis) who have had little or no formal schooling.

5. To provide opportunities for adults to communicate their ideas to others.

6. To set goals for the N.W.T. adult education program that are within the reach of individuals and groups in a reasonable length of time and to continually evaluate the program and achievements in order to make sure they are meeting the needs of the people, sustaining their interest and allowing for the satisfactions that come from accomplishment.

7. To place special emphasis on the adult education program for young adults (16 years and older) in order to help them to bring into focus and gain fundamental insight into the social changes taking place.

APPENDIX F

DATES OF ESTABLISHMENT OF SCHOOLS IN ESKIMO COMMUNITIES

Calendar Year	School Established
1947	Tuktoyaktuk
1949	Fort Chimo
1950	Aklavik Cape Dorset Coppermine Port Harrison Coral Harbour
1951	Chesterfield Inlet
1955	Frobisher Bay
1956	Great Whale River Inuvik Pangnirtung Reindeer Station
1957	Baker Lake Cambridge Bay Rankin Inlet Sugluk
1958	Arctic Bay Povungnituk Resolute Bay Spence Bay
1959	Broughton Island Clyde River Eskimo Point
1960	Belcher Islands Igloolik Ivuyivik Koartak Payne Bay Pond Inlet Wakeham Bay
1961	Whale Cove
1962	George River Gjoa Haven Grise Fiord Padloping Pelly Bay
1963	Lake Harbour
1964	Port Burwell
1965	Holman Island
1967	Hall Beach

APPENDIX G

CURRICULUM MATERIALS

Language Arts

Curriculum Guide, Language Arts, Grades I–VI, (Mackenzie District)	1966
Let's Begin English, A Program for Teaching English as a Second Language, Lesson 1–50	1965
Let's Begin English, A Program for Teaching English as a Second Language, Lesson 51–85	1967
Let's Begin English Picture Book (Being revised)	1965
Games & Activities for Teaching English as a Second Language	1965
Language Program, Beg's. to Gr. II (Inuvik)	1962
Language Program, Grades III to VI (Inuvik)	1962
Beginning with the Beginners	1962
An Experiment in Div. 2 Reading (Inuvik)	1962
Junior High School, Remedial Reading Program	1962
Remedial Survey Guide for the Mechanics of Reading	1958
Verbs in Pictures	1966

Northern Readers for Primary Grades

Seal Hunt	(English)	1966
The Story of Papik an Eskimo Boy	(English & Eskimo)	1963
Nicotye and Her Family	(English & Eskimo)	1963
Nuna	(English)	1963
A Weekend in Ottawa	(English)	1963
Mr. Larson's Visit	(English)	1963
My First Book	(English)	1963
Here's Jack	(English)	1962
Igloolik	(English & Eskimo)	1962
Eskimo Way of Living	(English)	1959
The Seal Book, An Experimental Pre–Primer		1967
Teaching Notes for the Seal Book		1967
Flash Cards for the Seal Book		1967

Testing & Evaluation

Test Item Construction	1962
Assessing the Intellectual Ability of Indian & Metis Pupils at Fort Simpson, Northwest Territories	1962
Mackenzie District Norming Project	1965
N.W.T. Testing Program, Mackenzie District Norms	1965
Tentative Norms for Metropolitan Achievement Tests	1966
Northwest Territories Testing Program	1967

Social Studies

Curriculum Guides and Reports of Curriculum Committees

Report of Social Studies Workshop, Inuvik	1961
Primary Social Studies, Inuvik	1962
Social Studies Course Outlines, Grades IV–VI, Inuvik	1962
Social Studies, Grades I–VI, Aklavik	1962
Social Studies Program, Grades I–III, Hay River	1962
Report of Yellowknife Committee on Social Studies	1962
Report of Fort Smith Social Studies Curriculum Committee	1962
Report of Fort Simpson Social Studies Curriculum Committee	1962
Proceedings of Mackenzie Education District Social Studies Workshop, Yellowknife	1962
Curricular Guide, Social Studies Program, Mackenzie Education District, Experimental Edition	1962
Proceedings of Mackenzie Education District Social Studies Evaluation Committee	1963
Mackenzie Education District Social Studies Program Special Issue of Curriculum Bulletin, Sept./62, Vol. 2, No. 2	
Social Studies Program, Grades I–III, Baker Lake	1963
Social Studies Program, Grades I–III, Rankin Inlet	1963
Social Studies Program, Grades I–III, Chesterfield Inlet	1963
Social Studies Program, Grades I–VI, Great Whale River	1963
Social Studies Program, Grades I–VI, Fort Chimo	1963
Social Studies Program, Arctic Education District, Interim Edition	1958
Curriculum Guide, Social Studies, Arctic Education District, Experimental Edition	1964; 1967

Audio–Visual Services

Audio–Visual Services Handbook	1966

Special Programs & Reports

Providing for Individual Differences	1961
Accelerated Academic Upgrading Program	1962
Programmed Learning with Teacher Participation, (A research report)	1965
Curriculum Guide, Social Studies, Churchill Vocational Centre	1965
Curriculum Guide, Science, Churchill Vocational Centre	1965
Curriculum Guide, Mathematics, Churchill Vocational Centre	1965
Curriculum Guide, Language, Churchill Vocational Centre	1966

Girls Vocational Curriculum Guide, Ungraded, Churchill Vocational Centre	1966
Boys Vocational Curriculum Guide, Ungraded, Churchill Vocational Centre	1966
Dressmaking & Tailoring 12, 22, 32, Grades 10, 11, 12 Sir John Franklin School	1966
Driver Training, Age 16 and over	1967
Northern Survival, Ungraded	1967
Vocational Education Handbook (Being revised)	1965

Home Economics

Northern Cookbook, Grades 7 to 12		1967
Foods for Health, Ungraded	(Eskimo & English)	1966
Foods for Health, Ungraded	(English)	1964
Practical Programs in Homemaking & Related Activities, Ungraded		1964

Industrial Arts

Plastics, Ungraded	1967
Small Oversnow Vehicles, Ungraded	1965
Practical Programs in Industrial Arts & Related Activities, Ungraded	1964
Junior High School Industrial Arts, Grades 7, 8, 9, Curriculum Guide	1963

Mathematics

Northern Workbook in Mathematics, Caribou Series	1966
Sets and Numbers, A Pre-Number Program	1966
Charts of Sets 1 to 10	1964
Modern Mathematics	

Health & Physical Education

Health and Physical Education	1962
Physical Education Program for Arctic Schools	1964
Eskimo Games, A Supplement to Arctic Physical Education Program	1965; 1967
Northern Physical Education Illustrated, A supplement to Arctic Physical Education Program	1965; 1967

Science

Colour Slides of Northern Flora and Fauna	1965
Resource Unit on Northern Flora and Fauna (In preparation)	
Northern Science Charts with Explanations	1965
Science Programs of the Province of Canada, Elementary Grades	1965
Conserve Our Resources	1957

Art

Initiating an Art Program	1962
What Can We Use?	1962
Where Can We Get It?	1962
What Shall We Do?	1963

INFORMATION PROVIDED BY DEPARTMENT OF NATIONAL HEALTH AND WELFARE, MAY 1968

The attached data was calculated from food records in Frobisher Bay and Coppermine in the period of 1965–66. There are several items which point up the differences between the more traditional Eskimo life in Coppermine and the community of Frobisher Bay.

1. *Native foods –*
   More seals, caribou and fish are used in Coppermine. Polar bear appear on the diet in Frobisher; moose at Coppermine.
2. *Milk –*
   Powdered milk is more frequently used at Coppermine. Evaporated milk is the choice at Frobisher Bay.
3. *Bread –*
   Since there is a bakery at Frobisher Bay, bread is a popular item. Those at Coppermine are apparently still making bannock.
4. *Soft Drinks –*
   According to these records, pop is used excessively at Frobisher Bay, and not at all in Coppermine.

FOOD DISAPPEARANCE – LBS./PERSON/YEAR

Native Food:	Frobisher Bay	Coppermine
Seal	155	241
Caribou	39	265
Fish	31	159
Polar Bear	6	–
Whale	2	–
Muktuk	1	–
Moose	–	36
Birds, rabits, etc.	–	5
Store Food:		
Milk – Klim	5.2	14.5
Evaporated	33.2	6.0
Jam	0.6	2.8
Sugar	46.0	49.6
Candies	4.3	2.4
Flour	98.0	112.7
Bread	167.5	–
Cereals	5.1	16.2
Biscuits – Pilot	21.5	15.6
Biscuits – Soda	2.8	2.6
Biscuits – Sweet	6.6	7.4
Canned meats	23.2	9.9
Lard, etc.	17.5	20.5
Chocolate	4.3	4.9
Soft drinks	258 bottles	–

APPENDIX I

ADULT EDUCATION MATERIALS

A. *Experimental Courses to teach English as a Second Language to Adults* – a functional literacy approach with package programs including workbooks, maps, teaching aids, films, filmstrips and pictures.

The Northwest Territories of Canada	1964
The Family and Money, with supplements (6), Making Change	1965
Co-operatives in the Northwest Territories	1965
Children of the Northwest Territories at Home and at School	1965
When a Child Lives in a Pupil Residence – Fort Simpson	1965

B. Eskimo Language – in preparation for introducing the new standard orthography for Canadian Eskimo, publications of the Curriculum Section were translated and the orthography added to the English and syllabics.

Nicotye and Her Family	1964–65
Igloolik	1964–65
Eskimo Way of Life	1964–65
Papik	1964–65

C. Voting for a Member of Parliament – three simple booklets were prepared for the Baker Lake Adult Education Classes in Eskimo syllabics and basic English with illustrations (duplicated locally).

D. *Rental Housing Projects*

Booklets

The Rental Collection System (English and Eskimo)	1968
The Housing Association Accounts (English and Eskimo)	1968
The Housing Association Council (English and Eskimo)	1968
The Stove and Heater (English and Eskimo)	1967
Living in the New Houses (English and Eskimo)	1967
Care and Use of Household Equipment (English and Eskimo)	1967
Safety in the New Houses (English and Eskimo)	1967
Renting and Buying a House in the North (English and Eskimo)	1967
The Government and Houses for Eskimos (English and Eskimo)	1967
The Rental Agreement	1967
Paying Rent (English and Eskimo)	1967
Oil, Electricity, Furnishings (English and Eskimo)	1967
The Housing Authority (English and Eskimo)	1967
Before Moving (English and Eskimo)	1967
Information for Interpreters, Parts I and II (English and Eskimo)	1966

Work Sheets and Pamphlets

1. Foods and Nutrition 1967
   - Canada's Food Guide
   - Measuring Equipment
   - How to Measure Ingredients
   - Milk Powder
   - A Thin White Sauce
     - Cream of Vegetable Soup
     - Cream of Tomato Soup
   - A Medium White Suace
     - Creamed Dishes
     - Casserole Dishes
   - Milk and Cheese
     - Cheese Sauce
     - Macaroni and Cheese
     - Cheese Meat Loaf
   - Milk Desserts
     - How to Use Pudding Mixes
     - Cornstarch Pudding
     - Chocolate Pudding
   - Cocoa
   - Meat and Meat Substitutes
     - Meat
     - Canned Meat
     - Fish
     - Eggs – Egg Powder
     - Dried Peas and Beans
   - Peanut Butter
     - Peanut Butter Cookies
   - Breads and Cereals
     - Bannock
     - Bread
     - Oatmeal – Porridge
       - Cookies
     - Rice – Rice Dinner
       - Rice with Ptarmigan
     - Cornmeal
     - Muffins
     - Tea Biscuits
   - Fruit
     - Dried Fruit (Prunes)
     - Fruit Sauce
     - Jello and Fruit
   - Vegetables
   - Water – Safe Water
   - Table Setting
   - Money for Food

2. Home Management (Cleanliness and Sanitation) 1967

Agar Culture to Show Germ Growth
Clean Dishes
A Clean Bathroom
Clean Floors
    Care of Linoleum Floors
A Clean Refrigerator
Care of the Bed and Bedding
How to Remove Stains
How to Launder Clothes
What to Use to Clean Your House
How to Plan Cleaning
When to Do Housecleaning Jobs
Clean Clothes Closets
Clean Walls, Ceilings and Woodwork
Many Hands Make Light Work
A Clean House is Important

3.

(a) How to Improve the House 1967

How to Make:
    A Baby Crib
    Bunk Beds
    A Coat Rack
    A Combination Book Case and Desk
    Curtain Rods
    A Folding Desk or Table
    A Gun Rack
    A Hanging Bookcase
    A Sawhorse (A teetertotter)
    A Solid Shelf
    A Stool or Bench
    A Storage Closet
    A Toothbrush Rack
    A Wall Bench & Storage
    Making a Picture Frame

(b) How to Do Minor Home Repairs 1967

Electricity
    Sources
    Electric Wiring
    House Wiring
    Wiring a Lamp
    Kinds of Electrical Appliances
    How to Repair An Electric Cord
    How to Repair a Heater Cord
    Making an Extension Cord

4.	Safety in the Houses Accidents in the Home The Danger of Fire The Fire Extinguisher	1967
5.	Sewing for the Home and Family	1967

How to Make:
- An Apron
- A Braided Mat
- Drapes
- A Potholder
- A Quilt

How to Use a Commercial Pattern to make:
- A Gathered Skirt
- A Fitted Skirt
- A Jumper or Simple Dress

Learning how to:
- Take Measurements
- Choose a Pattern
- Choose Material
- Prepare the Pattern
- Prepare the Material
- Cut Out
- Staystitch
- Make a Plain Seam
- Make a Casing
- Turn and Finish a Hem
- Make Darts
- Insert a Zipper
- Apply Facings
- Set In a Sleeve
- Press

6.	The Housing Association	1967

- The Rental Housing
- The Housing Association Council
  - What It Is
  - What It Does
- Tenant Responsibilities
- Aid for the Housing Association Council
  - The Phase I Housing Educator
  - The Phase II Housing Educator
  - The Phase III Housing Educator
  - The Phase IV Housing Educator or local Leader

E. *Monthly Newsletter Columns* (English and Eskimo) 1968

1. Helpful Hints for the Homemaker
    Care of Linoleum Floors
    How to Make a Hooked Rug

2. Helpful Hints for the Man of the House
    How to Make a Screen Door
    Hints for Painting Interior Walls

F. *Package Programs*

No. 1 – The Rental Houses
No. 2 – The Stove
No. 3 – Improving The Home
No. 4 – Safe Water
No. 5 – The Kitchen
No. 6 – The Bathroom
No. 7 – The Bedroom
No. 8 – The Living Room
No. 9 – Handling Food and The Cold Porch
No.10– Safety in the Home
No.11– Electricity
No.12– Rent

G. *Home Visit Packages*

No. 1 – Before Moving
No. 2 – A Clean House Is Important
No. 3 – An Apron
No. 4 – Bread and Bannock
No. 5 – Fruit and Vegetables
No. 6 – The Meat Group

H. *A Guide for Local Leaders*

Department of Indian Affairs and Northern Development

ESKIMOS ATTENDING VOCATIONAL COURSES, 1963–1968

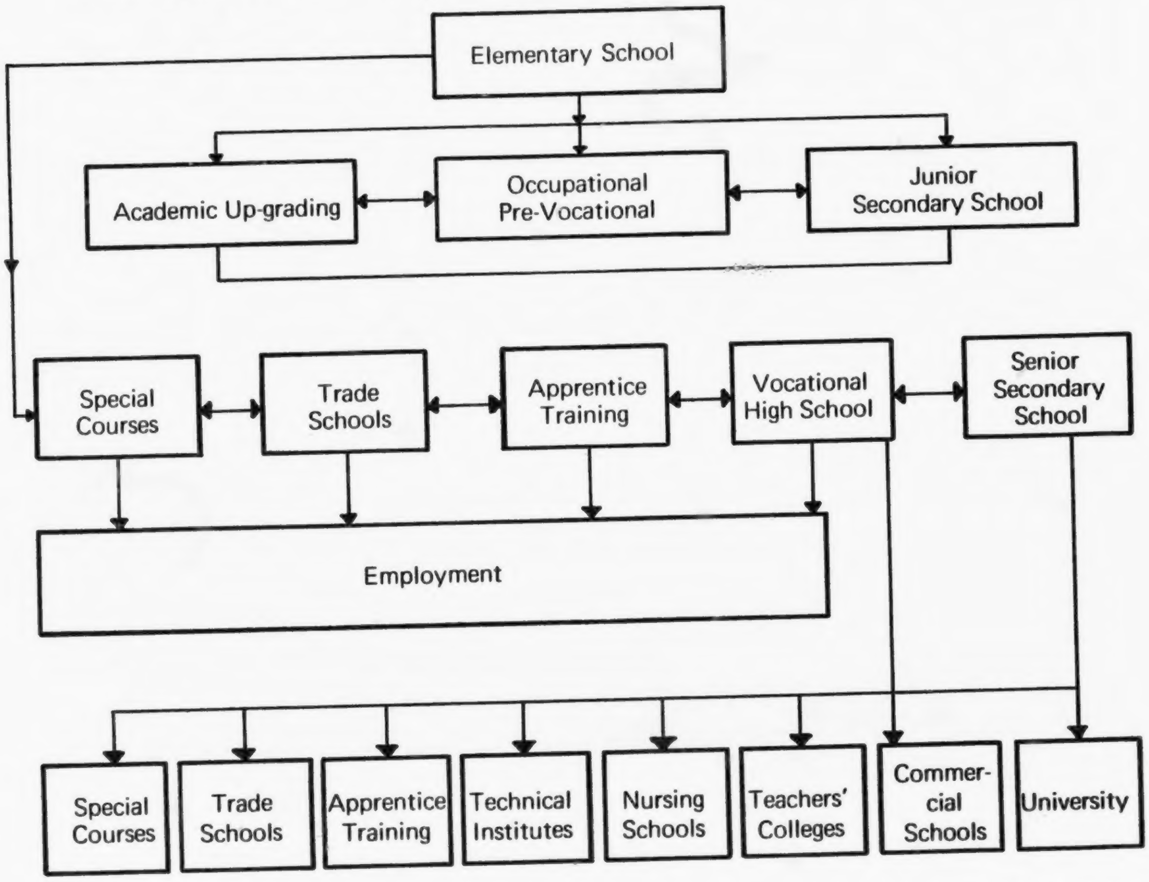
Courses outside Northern Vocational Schools	1963–64	1964–65	1965–66	1966–67	1967–68	Totals
Academic Upgrading	3		13	9	9	34
Agriculture			1			1
Airline Agent					1	1
Art (Commercial)			1	1	1	3
Art and Academic Upgrading			2	2		4
Art and Printmaking			5			5
Arts and Crafts	5	12				17
Automotive			1			1
Baking			2	1		3
Barbering	4	1	1	2	1	9
Beauty Culture				1		1
Boat-Building & Repair	11	11	3	15	5	45
Caretaking	7	6	32		4	49
Carpentry	16	15	14	23	9	77
Ceramics					1	1
Classroom Assistants			11	17	19	47
Clerk	11	9				20
Clerk-typist				2	1	3
Commercial	3				6	9
Commercial and Clerical			2	7		9
Community Health Worker			1		7	8
Cooking (Commercial)			4	4		8
Co-op Development				6		6
Co-op Management			2			2
Craft Management					1	1
Diesel Mechanic					8	8
Domestic			1			1
Electrician (Const.)			2			2
Electrician (Pl. Maint.)			4	7		11
Electrician Equip. Assembly	2					2
Electronics		2				2
Fabric Painting				4		4
Fishing (Commercial)				2		2
Fish Processing					6	6
Fur Grading	19	22	12			53
Furniture Repair		2				2
Guides, Hunting				10	8	18
Handicraft Management		1	2	13	14	30
Heating Equipment Servicing	1	1				2
Heavy Duty Equip. Operators	13	6	8		6	33
Heavy Duty Equip. Mechanic			3			3
Homemaking Assistants				11	11	22
Janitor			8			8
Laundry Worker	1					1
Lay Dispenser					4	4
Marine Mechanic	1	1	10	1		13
Motor Mechanic (M.V.R.)	2	1		1		4
Nurses Aides	5	2	1	2	2	12
Nurses Aides Screening				1		1

	1963–64	1964–65	1965–66	1966–67	1967–68	Totals
Occupational				26		26
Oil Burner Mechanic	1	1				2
Outboard Motor Repair	1					1
Painting and Decorating			4	2		6
Pilot Training (Commercial)					1	1
Postal Clerk	1		1			2
Power Plant			2			2
Plumbing	1			5		6
Practical Mathematics			1			1
Pre-Employment				3	6	9
Pre-Vocational	7	5		17	24	53
Railway Maintenance				6		6
Recreation Leadership		1				1
Sawmill Operation		6	1	10		17
Secretarial		1				1
Sewing and Cutting				20		20
Sheet Metal Worker				1		1
Small Business Management			2.		1	3
Stationary Engineer			1			1
Stenography		1				1
Tannery Operation			1	6		7
Taxidermy					1	1
Waiters—Waitresses			4			4
Warehouseman				1		1
SUB—TOTALS	115	107	163	239	157	781
Courses in Northern Vocational Schools						
Sir John Franklin School, Yellowknife, N.W.T.						
— Orientation	7	7	9			23+
— Industrial & Mechanical Trades	2	3	6			11+
— Commercial Pattern	1	1				2+
— Carpentry	1	2				3+
— Heavy Equip. Operator	12	13	6			31+
— Welding	1	1				2+
— Commercial			10			10+
— Comm. Cooking			4			4+
TOTAL	24	27	35	21	+	107+
Churchill Vocational Centre, Churchill, Manitoba						
— Orientation	101	101	164	98	152	612
— Occupational				12		12
— Commercial				5		5
— Carpentry				18	10	28
— Metal Work				9	5	14
— Food Service					10	10
TOTALS for Northern Vocational Schools:	125	128	199	163	177+	792+
TOTALS Outside Northern Vocational Schools:	115	107	163	239	157	781
GRAND TOTALS:	240	235	362	402	334+	1,573+

NOTE: "+" figures will be higher when information on Eskimo enrolments at Yellowknife for 1967–68 is available.

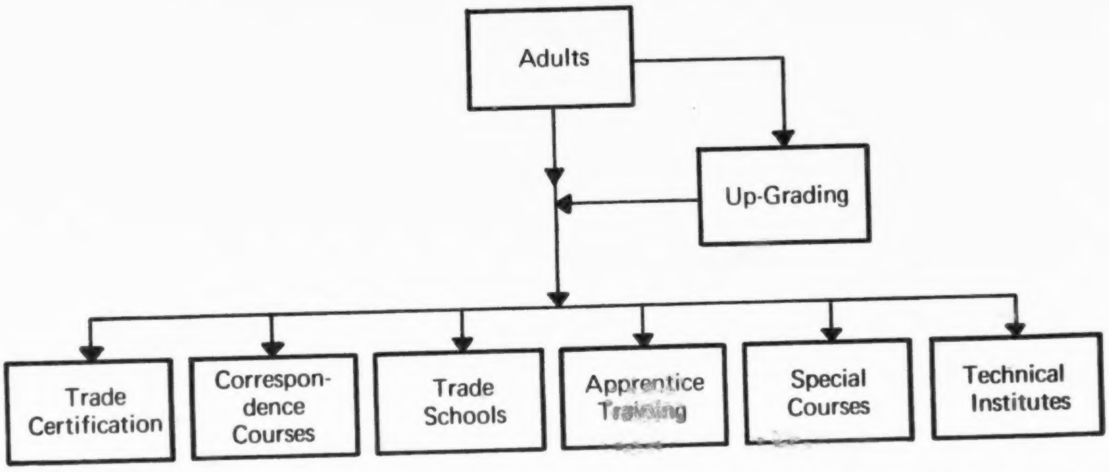
DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

Education for Employment — Northwest Territories


Elementary School
Academic Up-grading
Occupational Pre-Vocational
Junior Secondary School
Special Courses
Trade Schools
Apprentice Training
Vocational High School
Senior Secondary School
Employment
Special Courses
Trade Schools
Apprentice Training
Technical Institutes
Nursing Schools
Teachers' Colleges
Commercial Schools
University

Elementary school graduates may proceed direct to Special Courses, or may, before taking training, be given academic up-grading, pre-vocational training or secondary education.

Senior Secondary School graduates may proceed to technical institutes, nursing schools, teacher training colleges, commercial schools, universities or to other post secondary school level institutions. Trainees must meet the entrance requirements of the institution and course chosen.


Adults
Up-Grading
Trade Certification
Correspondence Courses
Trade Schools
Apprentice Training
Special Courses
Technical Institutes

An adult may proceed direct to any of the above training programs if in possession of entrance requirements. If not in possession of entrance requirements, an upgrading course may be provided.

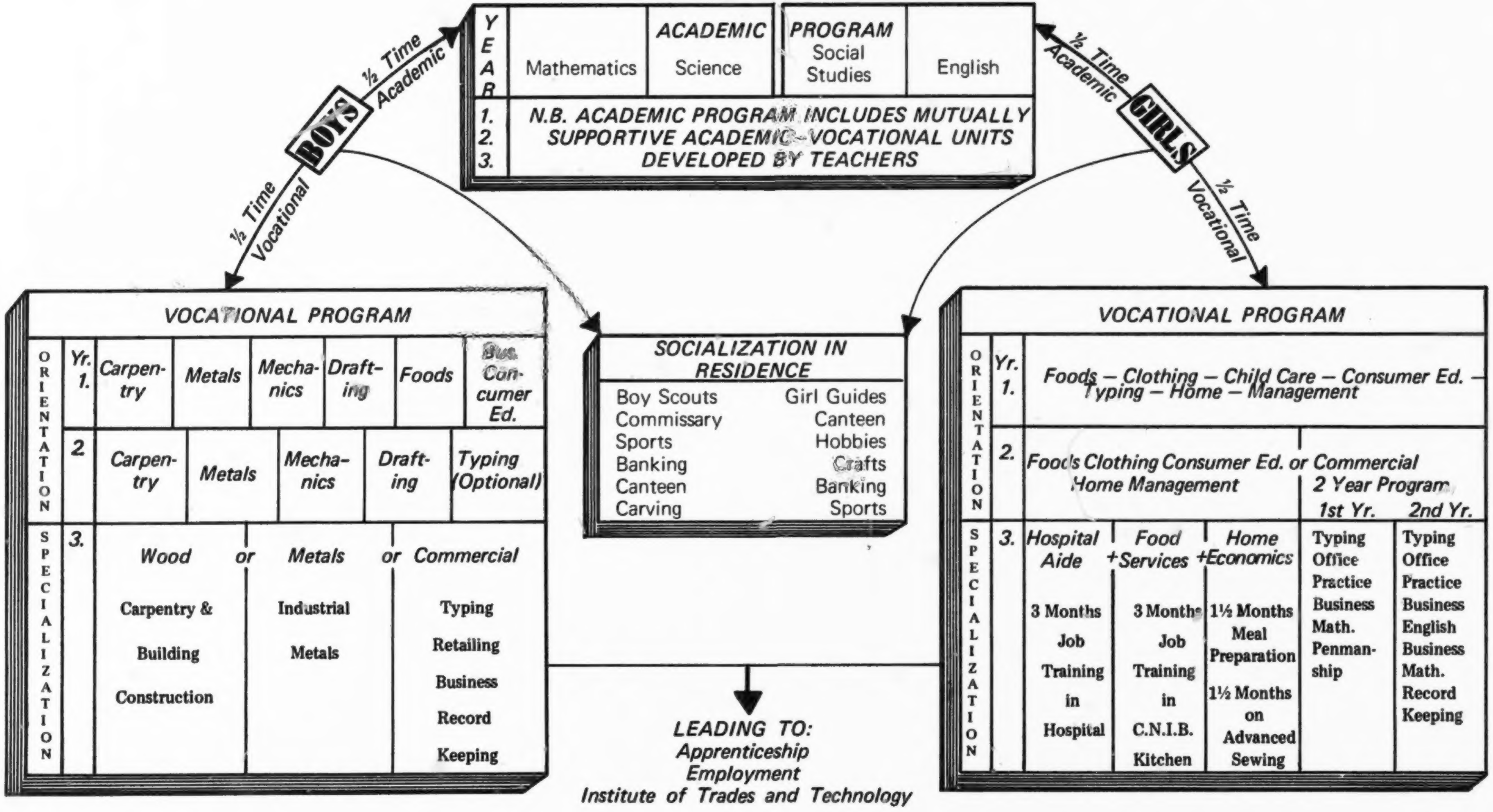
APPENDIX L

Certificates Issued to Northwest Territories Apprentices –
1964–65 – 1967-68

Certificates Issued	1964–65	1965–66	1966–67	1967–68	Total
Beginner's Certificates	4	30	21	34	89
4th Class Certificates	—	20	10	21	51
3rd Class Certificates	2	9	12	11	34
2nd Class Certificates	4	1	5	9	19
Journeyman Certificates		3	2	4	9
Completion of Apprenticeship Certificates without Interprovincial Seal	—	2	1	2	5
Completion of Apprenticeship Certificates with Interprovincial Seal	—	1	1	2	4
Total certificates by year:	10	66	52	83	
No. of apprentices at end of each year:	9	54	67	73	
No. of occupations analyzed and apprenticeable at end of each year:	15	21	25	29	

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

Churchill Vocational Centre
(For Eastern Arctic Pupils)
FORT CHURCHILL, MANITOBA


YEAR
ACADEMIC PROGRAM
Mathematics
Science
Social Studies
English
1.
2.
3.
N.B. ACADEMIC PROGRAM INCLUDES MUTUALLY SUPPORTIVE ACADEMIC-VOCATIONAL UNITS DEVELOPED BY TEACHERS
BOYS
½ Time Academic
½ Time Vocational
GIRLS
½ Time Academic
½ Time Vocational
VOCATIONAL PROGRAM
ORIENTATION
Yr. 1.
Carpentry
Metals
Mechanics
Drafting
Foods
Bus. Con-cumer Ed.
2
Carpentry
Metals
Mechanics
Drafting
Typing (Optional)
SPECIALIZATION
3.
Wood or Metals or Commercial
Carpentry & Building Construction
Industrial Metals
Typing
Retailing
Business
Record Keeping
SOCIALIZATION IN RESIDENCE
Boy Scouts
Commissary
Sports
Banking
Canteen
Carving
Girl Guides
Canteen
Hobbies
Crafts
Banking
Sports
VOCATIONAL PROGRAM
ORIENTATION
Yr. 1.
Foods – Clothing – Child Care – Consumer Ed. – Typing – Home – Management
2.
Foods Clothing Consumer Ed. Home Management or Commercial
2 Year Program
1st Yr.
2nd Yr.
SPECIALIZATION
3.
Hospital Aide
3 Months Job Training in Hospital
Food + Services
3 Months Job Training in C.N.I.B. Kitchen
Home + Economics
1½ Months Meal Preparation
1½ Months on Advanced Sewing
Typing
Office Practice
Business Math.
Penmanship
Typing
Office Practice
Business English
Business Math.
Record Keeping
LEADING TO:
Apprenticeship
Employment
Institute of Trades and Technology

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1. In 1955 there were only schools in eight Eskimo communities as compared with 41 in 1967–68. Over the same 13-year period the number of classrooms increased from 18 to 149 and the number of Eskimo pupils enrolled increased from 451 to 3,718. The percentage of Eskimo children who are of school-age and are enrolled in schools has increased from 17% in 1955 to 83% in 1967. (Appendices A, B and C).

2. See Appendix E for Educational Aims and Objectives.

3. MacArthur, R.S. *Assessing the Intellectual Ability of Indian and Metis Pupils at Fort Simpson, N.W.T.*

4. Appendix F shows dates when schools were established in Eskimo communities.

5. Age-grade Distribution of Eskimo Pupils as of January, 1967. See Appendix D.

6. Classes for age-grade retarded children usually in the 14–19 age group.

7. *Northwest Testing Program, 1966–67 for Metropolitan Achievement Test Battery* – H.A. Macdonald, Curriculum Section, Education Division.

8. *Northern Cookbook* and other Vocational Education publication – See list of Curriculum materials – Appendix G.

9. See Appendix H.

10. *N.W.T. Manpower Test Survey – 1967.*

11. Appendix I lists the booklets and work sheets which have been prepared to assist Eskimo homemakers.

12. Appendix G shows the wide range of curriculum materials already in use in northern schools.

13. Appendix J shows the Eskimo enrolment in Vocational Education Programs for the years 1963–1968.

14. Appendix L shows the number and types of certificates issued to Northwest Territories apprentices.

15. Stevenson, D., *A First Draft of Report on Relocation of Eskimos,* October 24, 1967.

16. Department of National Health and Welfare.

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Varkony, Eva, *Childhood in an Eskimo Village: George River, Quebec.* A paper submitted to the Department of Anthropology in partial fulfillment of the requirement for the Degree of Master of Arts at the University of Chicago, June, 1967.

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THE INFLUENCE OF THE SCHOOL ON ACCULTURATION WITH SPECIAL REFERENCE TO GREENLAND

*Dr. Charles W. Hobart**

In most societies education is the process through which the mature members of the society seek to prepare their children and adolescents for the responsibilities and opportunities which exist in the society. In simple hunting, fishing, gathering societies, much of "education" is essentially "learning by doing" through imitation and apprenticeship. Formal instruction, if present at all, is brief, and is often a part of puberty initiation rites. Even in folk societies where formal education does exist it usually consumes but a small portion of the child's day, for a brief period of his life, and this is overshadowed by the "learning by doing" informal aspects of his education.

Children in advanced societies of course learn very much less through informal education. In the school system they acquire *two* different kinds of knowledge. They not only learn the material taught in the classroom, but they also learn to play the increasingly differentiated roles which must be played in the higher grades in the increasingly large and complex schools which teach these grades.(1) In the mastery of both kinds of learnings they are usually helped by parents and older children whose conversation serves to socialize them with respect to the educational experiences which await them, and to the significance of that education. Further, of course, they are surrounded in daily life by people whose work activities illustrate the importance of the skills they are taught in the class. The orientation toward work of these people illustrates the patience, persistence, and self-discipline which is assumed to be "normal human nature" in advanced societies, and is increasingly expected at school.(2) As in simple societies, there is a *basic continuity* between the preschool life and the earliest school experiences of most children in the Western World, and there are many points of obvious articulation between the lessons of the classroom and the activities of mature adults which the child is aware of as he advances in school.

For some children in the Western World the experience of school is the polar opposite of that just described. Here the conception and implementation of schooling programs is by authorities who have never experienced life as it is lived by the children, and the lessons of the classroom are little related to the experience of kin and community. Such an experience of school is common to most North American Indians and Eskimos, and is becoming more common for some Greenlanders as well.

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Thus, there exist today two polar ideal types of educational arrangements. The first involves continuity between the preschool life and the early school life of the child, and between the lessons taught in school, and the lives of people he can see through the classroom window. The other involves very little continuity, either between the preschool and the early classroom experience of the child, or between the material he studies and the lives of the people he knows in the community in which he lives.

These different types have different implications for the acculturation of the children who are taught in the school, and indeed for the kinds of acculturation of which they are personally capable.

AN ANALYTIC SCHEME

This section presents a paradigm for the analysis of the social psychology of acculturation, as it is affected by the school. The emphasis is on the more subtle effects of educational arrangements, effects on self-regard, identity feelings, values, and motivations, since they are infrequently discussed and yet are profoundly consequential for the individual and his society. We shall consider the determinants of the kind of educational system which comes into existence, and the determinants of the student behaviors which result from exposure to the system.

Determinants of the Educational System

Control of the school system differs sharply in autonomous and in colonial or wardship societies. In the former, members of the society allocate a portion of its resources for the training of the next generation, conformably with the core values and the master trends of the society.(3) There is rarely debate over where or how or what kind of education is to be offered; societal consensus usually exists on these questions. In colonial or wardship societies, however, the decisions as to where and how and what kind of education is to be offered or imposed are usually made by representatives of the dominant society rather than by representatives of those affected. A wide variety of considerations may enter into these decision-making processes. The following is an extensive, but not exhaustive, listing:

1. Pedagogic considerations, whatever the goals of the professional educators and their educational programs may be.

2. Logistic considerations, the supplying of the school with needed materials, fuel, etc.

3. Engineering considerations – problems of site advantage and disadvantage, ease of construction, accessibility of water, etc.

4. Economic considerations – costs of building, maintenance, operation, etc., of various types of schools in different locations.

5. Administrative considerations – ease of consultation and supervision, possible implications for empire building, etc., of diverse types of schools.

6. Public Relations considerations – possibilities of exploitation of schooling arrangements for favorable public reaction; invulnerability to public criticism.

7. Teacher and other staffing considerations – ease or difficulty of hiring staff members deemed qualified for various kinds of teaching positions.

8. Political considerations – the influence of pressure groups, including religious organizations, and constituencies served by a school system, etc.

Many of these considerations of course overlap, but each one is analytically distinct.

Determinants of the Behavior of Students in the System

Understanding the consequences of exposure to the educational system requires consideration of the learnings which may be acquired in the system, and the ways they may influence post-school life. The argument may be summarized in a series of propositions. The starting point is the assumption that behavior patterns are learned which have problem solving or tension reducing significance: in general, people seek to attain gratifications, circumventing such obstacles as they encounter, and to avoid pain or punishment.

1. The techniques or solutions which are learned in one context will be generalized to other seemingly similar situations.

2. One of the major goals of education is to prepare people to cope with the opportunities, and to solve the problems they will encounter as mature adults.

3. However, every educational institution poses an *immediate* set of problems, and of opportunities because it is a certain distinctive kind of organization to all who encounter it anew. Thus, formal education always involves solving the present problems encountered by the students in the *educational institution*, as well as preparing the student for the solution of future problems.

5. The greater the dissimilarity between the student's life within and without the educational institution, the greater the set of problems which it poses. Solving these problems takes precedence over the mastery of classroom lessons for pupils, because they are problems of immediate adjustment to the organization in which lessons are taught. They involve immediate gratification or pain.

6. Since these problems are similar for the majority of students in school, the solutions to them will be collective and shared; they will take the form of a distinctive student subculture. Children sent to a new school situation will learn the subculture which preceding generations of students have evolved to solve the problems it posed.(4)

7. There are at least six important ways in which the school situation may, or may not resemble the home community life experiences of the students it seeks to educate:

a. The physical setting, including food, clothing and housing arrangements.

b. The language spoken in the classroom and on the school grounds.

c. The norms which are formally or informally enforced and the value hierarchy which is explicitly taught or implicitly communicated.

d. The social organization of the school including the patterning of interpersonal relationships and the complexity of the organizational hierarchy.(5)

e. The skills taught in the classroom, and on the playground, and assumed to be important by teachers or peers or both.

f. The personnel of the school, including both teachers and students.

The more closely the pattern of life and learning inside the school resembles that outside the school, the more accurately may the consequences of schooling be anticipated. The greater the disparity between life inside and outside of the school, the less adequately can the results of schooling be anticipated, and the greater the likelihood of unanticipated, and perhaps dysfunctional consequences of such schooling. Moreover, where the school is a boarding school and when children are placed in the school at the age of six or seven, the predictability of the consequences of such education is further decreased.

Consequences of Formal Schooling

The scheme described above should provide a basis for understanding the variety of behavioral consequences which may flow from the experiences of Northern indigenous children in the school. In the remainder of this paper I want to discuss briefly some of the *sources*, and the *consequences* of continuity and discontinuity between the school and the home community experiences of Canadian and Greenland Eskimo students. These consequences will be analyzed in terms of (1) first-order or determinant of behavioral consequences and (2) second-order or overt behavioral consequences. The former are more individual or phychological, the latter are more social, though not entirely so. They may be outlined as follows:

First order consequences: behavioral determinants.

1. Attitudes toward one's origins, including attitudes toward parents, and toward the home community as place, people and way of life.

2. Attitudes toward self, including sense of identity; and value of self as worthy or unworthy, adequate or inadequate, etc.

3. Life goals: Are they meaningful, realistic, realizable?

4. Means toward the attainment of goals: Does the student learn skills and motivations prerequisite to the attaining of goals.

Second order consequences: overt behavior. The following overt behavioral consequences of schooling are possible:(6)

1. Conformist behavior reflects adequate learning of goals and means and adequate opportunities for the employment of these means.

2. Criminal behavior reflects adequate learning of success goals but not of the implementing skills or motives, leading to illegal goal seeking behavior.

3. Conflict behavior results where the actor has internalized the goals of the dominant society but is unable to strive for these goals either legitimately because of lack of skills, opportunities, etc., or illegitimately, because the skills and "connections" are not available. Frustration is vented in excessive drinking and other more distinctively conflict behaviors.

4. Retreatist behavior involves a retreat from both the goals and the means of attaining these goals offered by the dominant society. It results

when the context in which goals and/or means were taught was so punishing that repudiation of the goals came to symbolize rejection of the associated frustration. An example of this behavior would be reversion to a more traditional, "living off the land" source of livelihood.

5. Inactivism, which reflects incapacitation or immobilization, results when the actor acquires a self-concept as totally inadequate. It is further aggravated by an education which prevents identification with traditional cultural goals or with the goals of the dominant society.

The implications of this analytic scheme are suggested in the comparison of arrangements for Eskimo education in Greenland, and in the Mackenzie District of the Northwest Territories. I shall first elaborate briefly on the origins, characteristics, and consequences of the Mackenzie District system. This description will serve to point up contrasting features of the Greenlandic system which is discussed next.

EDUCATION IN THE MACKENZIE DISTRICT OF THE CANADIAN ARCTIC

Almost every voice was heard in planning the design of the school system in the Mackenzie District except the voice of the Eskimo and the behavioral scientist. Government officials decreed that the goal should be primarily replacement of the native culture by Euro-Canadian culture, rather than an emphasis on cultural continuity or a synthesis of the two. The competing church missions wanted a boarding school, seeking to operate the hostels and thus obtain the opportunity for religious indoctrination of the children. They wanted a large school in order to justify two hostels, one under Anglican and one under Roman Catholic auspices. Educators demanded that the teachers be fully accredited, but apparently saw no need for special training to equip teachers to work with northern children. They further wanted schools in larger, more accessible locations, rather than in all communities above a minimum size, to ease problems of recruiting "fully accredited teachers" to such schools. Engineers wanted to locate the school in a large pre-planned community where the school and all conceivable ancillary services, laundry, residences for teachers, etc., could be served by a central heating system, utiladore, etc. Transportation experts and budget-minded administrators argued for its location on the Mackenzie River. Those with an eye to public relations were mindful of the good press coverage available if "ragged," "dirty," "ill-housed" and perhaps "ill-fed" Eskimo children could be brought into a central location and there bathed, dressed in new outfits, housed and educated according to the best of Euro-Canadian middle-class standards. The result of this series of considerations and pressures was the Sir Alexander Mackenzie School in Inuvik, which in 1964 was attended by 44 per cent of all Eskimo school children in the district. Children were brought to this school from Arctic settlements without schools of their own, from age six on.

The keynote of this school is *discontinuity*. Neither in terms of physical facilities, nor language, nor food, nor fellow students, nor the patterning of relationships, nor time schedules, nor disciplines, motivations, nor content of the curriculum is there any precedent in the pre-school experience of most of the Eskimo children who go there. The extent of dislocation is further maximized by the fact that children come at an early age, and that the school is a total institution, effectively seeking to break all continuities with the child's pre-school life.

The consequences are, of course, that in addition to learning his lessons in the classroom the child has *much* to learn in adjusting to the total institution in which he finds himself. He must cope with his emotional reaction to separation from home, and to the strangeness of the situation in which he now finds himself – shower baths, over-heated rooms, foreign social controls. He must learn to adjust to masses of peers, to hostel staff members, and hostel routine. One pervasive and effective coping device appears to be embracement of the American-Canadian adolescent subculture, which may be symbolized as "Elvis Presleyism," and which Parsons characterizes as hedonistic and irresponsible.(7) Its function, for North American, as for Eskimo adolescents is to provide an escape from the ambiguities and the conflicts of the situation in which the adolescent finds himself. Involvement with this subculture is reflected in the dress and personal grooming, music, and dance preferences of the school children. An equally serious effect is the loss of tolerance for the cold, dirt, and crowding found at home, and for distasteful chores like emptying the honey bucket, skinning animals, etc.

The first and second order consequences of this educational system may be quickly summarized. The children early lose their appreciation of their parents, their home communities, and the way of life that is lived there, and indeed come to disdain all of these. Obviously it is the world and the knowledge of the white man which is important, since this is all that is taught to them in school, and equally obviously since their parents and neighbors know little or nothing of these they are not worthy of respect. Clairmont's data clearly documents the fact that men and women who are products of this type of schooling actively reject traditionally-oriented subsistence activities, preferring unemployment to sullying themselves with activities seeming traditionally Eskimo.(8)

My interviews with Eskimos in the Mackenzie District yielded numerous examples of alumni of such schools who were profoundly confused in their sense of identity, who were ashamed of being Eskimo, and who felt inadequate, and unable to compete. It must be emphasized that they had acquired the goal of living the good life that they had known in the hostel.

But underneath many reflected a pathetic yearning to return to the warmth and emotional security of the parental home from which they were taken at an early age to the residential school, a home whose discomforts and privations they now rejected. Thus in their life goals many were profoundly at odds within themselves.

The most malajustive consequence of this schooling system is that its alumni are commonly unable to adjust to either the world of their parents or the world of the white man. Weaned to "the good life" of the hostel as they were, they are unable to go home and live the way of life available in the home community. They have been taught to crave values which they cannot buy for lack of skills and/or disciplines.

As a result of these first order, or determinant of behavior consequences, several patterns of overt behavior are commonly characteristic of the residential school alumni. *Conformist* behavior is rather rare because, as we have noted, the ex-students have well learned an escape-oriented adolescent subculture, because they are confused in their goals, feel inadequate personally, and in fact do not have the skills, motivations or disciplines to live Euro-Canadian conformity patterns. Although petty theft is on the increase, *criminal* behavior likewise is rare because the illicit channels for the disposition of stolen goods are not available.

There are, however, evidences of *conflict, retreatist and apathetic inactive* adjustments. Clairmont has written of the emergence of conflict gangs in the Mackenzie Delta, as the frustration of being unable to obtain the style of life to which they became accustomed in the hostel is vented in a variety of expressive and anti-social ways.(9) In the more remote areas one encounters a certain number of people who have retreated from the way of life experienced in the residential school, usually because they were unable to solve the problems which the hostel and the school, rather than the classroom lessons, posed for them. One also encounters cases of apparent apathetic inactivism, commonly associated with blaming whites for one's difficulties, and with a certain amount of alcoholism.

EDUCATION IN GREENLAND

The Greenland school system presents a picture which contrasts at almost every point with that just described. Little is known of the voices which were influential in shaping the pre-1955 system. It would appear that there was a consensus on the part of all, educators, religionists, governmental administrators, etc. that prime considerations in establishing schools were not to disrupt the life of the local community, and to train people to take better advantage of the sources of livelihood available to them.

In many respects the same kind of concerns were yet operative in the reshaping of the school system that has taken place since 1955. There was apparently a general concern to broaden the number of alternatives available to those who had gone through the system. We shall see below that a major technique for the attainment of this end was the massive introduction of Danish teachers into the system. But even this very significant change is being accomplished largely within the confines of the previous educational philosophy. The system which came into existence is remarkable in a number of respects. I shall discuss briefly the variety, continuity, flexibility, and relevance of the educational system in Greenland.

One of the most distinctive aspects of the system is its variety. The number of different kinds of schools which were yet operating in the spring of 1965 was remarkable. There were small one-room schools taught by a Greenlandic catechist such as had existed for almost 200 years, and large multi-room schools wherein almost all of the teachers had had professional training. There was instruction solely in Greenlandic, and instruction solely in Danish, with the exception of the religion and Greenlandic literature classes. There were day schools and boarding schools, at all levels. There were schools where native crafts were taught and schools where western vocational training was provided.

Such variety in schooling arrangements may be attacked in terms of the inequality of opportunity which inevitably results – this is obvious. But the explanation for this variety, and to my view, the value of it, lies in the continuity with other aspects of local life which thus becomes possible. To my mind a major disadvantage of the Canadian Arctic schooling system lies in the radical and perhaps traumatic discontinuities it inflicts.

There are many aspects to the continuities between life in and out of school which the child in Greenland experiences. There is considerable continuity between the parent's own schooling experiences and those of his children since he, too, went to school, and was commonly exposed to most of the subjects his children study, including Danish. There is continuity between the child's school and his home experiences. This is true of physical facilities: in very small or remote areas both the homes and the school facilities are likely to be primitive, while in the larger towns both are likely to be quite comfortably equipped even by North American standards. There is a considerable degree of continuity in language, although the most recent educational innovations are changing this. At any rate, the amount of emphasis on Danish language in terms of both the time spent in study of it, and of its use as the language of instruction, tends to vary with the amount of Danish used in the rest of the community. Usually it is in the communities where Danish is most commonly spoken that Danish figures most importantly in the curriculum, both as subject and as instructional medium. However, aggressive efforts are being made to extend the teaching of Danish in all areas. These efforts include, of course, the massive increase in proportions of teachers who are Danish (about which more later), the sending of Greenlandic catechist teachers to Danish language seminars, and to year-long training programs in Denmark, and the development of tape-recorded and radio instructional programs for remote communities having catechist teachers with minimal knowledge of Danish.

There is continuity in the skills and values taught in the school, and characteristic of the community, for the same reason. In more modern communities, where more of the values lived and skills used are of Danish origin, a higher proportion of the teachers is Danish. The skills taught, including vocational skills and communication skills, and the values taught both consciously and unconsciously are more characteristically Danish. In more remote communities the skills and values taught in the school, unconsciously as well as by design, tend to be more traditionally Greenlandic – but not exclusively so, it should be emphasized. The school is not primarily conservative in what it teaches, but the continuity is there.

There is, furthermore, continuity in concepts taught in the school system. In contrast to the problems mentioned repeatedly by Canadian teachers in the Arctic, of attempting to explain school book terms common to Euro-Canadians but foreign to Eskimos, such as "tree" and "fence," teachers in Greenland make use of a rich collection of instructional materials in both the Greenlandic and the Danish languages, designed for Greenlandic children. There is sufficient variety of these materials to select those which will be most appropriate to the community in which the school is located. Moreover, if the teacher finds that the materials available to him are not as appropriate or relevant to the students he teaches as he would like, he is free to write and reproduce new material. Indeed, he is encouraged to do so, and if his material is deemed worthy of publication it will be published and he will be paid for the contribution he has made.

It should not go unmarked that there is also continuity in the patterning of interpersonal relationships in school and community. In the remote community, where interpersonal relationships are traditionally defined, the relationships in the school will tend to be similarly defined. The nature of the interaction between teacher and pupils is similar to that between religious leader and congregation members. In both cases the social structures are simple. In the larger towns, however, many people are employed by or served by large bureaucratic organizations, whether governmental or private, and relationships are more commonly secondary relationships. Here, too, the school is larger and more bureaucratic in structure, and interpersonal relationships are more secondary.

Finally there is similar, and interrelated continuity between motivations, disciplines, self-concepts and senses of identity which are taught in schools in different kinds of community situations. There is little doubt that schools in the smaller and more remote settlements are more "lax." Parents can more easily, and do more frequently pull their children out of school for a few days when they go on hunting trips. Because of the crowdedness and the inadequate lighting facilities of many of the homes the homework performance expected of children is at a lower level. Absence from school because of weather conditions is more frequent. The result is that less of a hard work discipline is learned by children in school and this is appropriate to the hunting and fishing sources of subsistence of their community. In larger communities, of course, the schools are able to enforce more self-disciplined schoolwork performances and these are both similar to the performances expected of the children's fathers "on the job," and to the expectations the youngster will have to live up to after they go to work. It is clear that somewhat different motivational patterns are learned in these contrasting situations.

The senses of identity and the self-concepts which are learned will differ also. There will be differences in the felt importance of in-school and out-of-school (family subsistence, and home chore) activities, between town and hamlet, such that an inadequate performance in school will be more threatening, a more salient failure experience, in the former than the latter setting. Clearly the importance of success in mastery of Danish will differ in the two situations. The senses of identity acquired in these two contexts – that is, "I am he who is able to do so and so, and is skilled in doing so and so" – will differ, and they will differ in ways relevant to the livelihood prospects of the student in the community in which he lives. To repeat then, the disciplines and motivations he learns, the skills and abilities he becomes proud of, the liabilities of which he is ashamed, are all relevant to the way of life most immediately available to him.

The same point may be made with respect to the impact of the school on the world view of students. For example, a view emphasizing mastery over nature is clearly appropriate to most employment positions in the town, whereas a view emphasizing man as subject to nature is more appropriate to the fishers and hunters of the small hamlet. Enough has been said already to make it clear that little of the latter orientation will be communicated in the more modern school system of the town. On the other hand, more of the latter will be inadvertently communicated, we suspect, by the catechist teacher of the single-room school in the hamlet.

It follows from all that has been said here on the subjects of variety and continuity that the schooling offered children is relevant to the way of life they must envision for themselves after they leave school. Given that they identify with their fathers and older brothers in the case of boys, and with their mothers and older sisters in the case of girls, and anticipate somewhat similar career patterns for themselves, they are not cast into confusion by the schooling they receive.

There is, of course, a great potential weakness in any school system which emphasizes immediate relevance: rapid change in the rest of the society will make what is relevant today obsolete tomorrow. Greenlandic school officials have been aware of this and have sought to cope with this possibility. One of the most effective antedotes is flexibility in the educational system. Just as surely as change does come, it is sure that new opportunities will not come to all equally. And so the teacher in Greenland is free and he is encouraged, especially in the case of the more sophisticated Danish teachers, to choose materials appropriate to the changing situations of the local community. Instruction may be in Greenlandic or Danish; training in native skills and crafts, or in Danish vocations may be offered. The content of the curriculum, the balance of subjects offered is subject to easy modification. While the overwhelming majority of children are educated in their home communities, those who show unusual promise for advanced or more demanding training are encouraged to go to a boarding school having a more rich and demanding curriculum at whatever age is appropriate given the educational resources of the home community. Once the permission of the parents is obtained the youngster is sent at governmental expense.

The immediate consequences of this educational system are indeed impressive. It should be noted in passing, however, that it is impossible to determine to what extent these are consequences of the *schools,* and to what extent they may derive from other admirable aspects of Greenlandic society, including (1) a judicial system which incorporates traditional Greenlandic conceptions of justice and morality, (2) the remarkably non-punitive Danish penology, (3) an economic system designed not for profit but for public benefit, and (4) other aspects of an administration dedicated to protection of the people and the society from disruptive culture shock.

Here again I shall discuss the first order, determinant of behavior consequences, and the second order, overt behavioral consequences. There is little need for a detailed discussion of the first: attitudes toward one's origin – parents, home community, etc., toward self, sense of identity, internalization of life goals, and possession of means for the attainment of goals. Since education is provided in the home community, and in most cases by a fellow Greenlander using Greenlandic as the language of instruction, the basic continuities do insure adequately appreciative attitudes toward parents, home community, and self. They insure further that the growing sense of self-identity will be clear, adequate, competent. The flexibility of the system tends to insure that the life goals taught are attainable, and relevant in terms of opportunities available, and the skills learned for the exploitation of these opportunities.

In terms of the second order consequences it need only be said that the behavior of the school alumni in Greenland is apparently predominantly conformist. Criminal and conflict behavior has been very rare, so rare in fact that no town gaols existed in Greenland before 1960. No penal treatment facilities were in existence there as of 1965, and the first Greenlander was sent to Denmark for penal treatment in the summer of that year. There may be some of retreatist behavior, that is, retreat to smaller and more traditional hamlets, but I was able to find no clear indications of it. Similarly I was not aware of apathetic inactivism. It appears quite clear, in sum, prior to the most recent educational developments at any rate, that the school system was performing excellently in producing people able to take advantage of the opportunities available to them and free of need dispositions to deviate in socially disruptive ways.

Some other, more general consequences of this system should be noted. These include the early achievement of literacy throughout Greenland, the development of a Greenlandic literature, the development of effective native leadership, and the cultivation of an open-minded approach to acculturation on the part of the populace, characterized by neither the slavish limitation of Danish and other western ways, nor the compulsive affirmation of the traditional Eskimo culture. I shall comment briefly on each of these in turn.

It is noteworthy that illiteracy was abolished a century ago, and that a Greenlandic literature has developed which includes both compositions by native writers and translations of the works of others. This literature is published in Godthaab, as well as in Denmark, and a selection of these works is to be found in the stores of the Royal Greenland Trading Company in even the smallest hamlets. It is a sufficiently rich literature that the Moravian missionaries to the Labrador Eskimos, eager to make it available to that Eskimo group, changed their syllabic script to the Roman alphabet of Greenland over sixty years ago.

The school system in Greenland has trained not only a literate population, but one able to provide much of its own leadership as well. Throughout Greenland the clergy is almost everywhere of native origin, and until 1955 virtually 100 per cent of the teachers were Greenlanders. In 1965 Greenlanders headed the school system, the Police Department and the broadcasting system.

One of the remarkable features of the Western and Central Canadian Arctic is the rapid, and virtually complete disappearance of much of the traditional artifactual culture. Nowhere is a kayak or an umiak yet to be found in use. Much of the traditional clothing is now disdained, although it provides better protection from the cold than does the clothing purchased in the store. Square-back canoes, jolly boats, and motorized toboggans are widely encountered, and yet more widely wanted by the Eskimo populace even in areas where white contact has lasted no more than forty or fifty years. The contrast of this pattern with that in Arctic Alaska and in Greenland suggests clearly that the motivation is to imitate whites, quite slavishly. There is little indication of such an attitude in Greenland. Kayaks are still encountered wherever there is use for them. Native boots, fur pants, and parkas are widely used during winter sled travel. Changes there are, of course, and many of them, but they appear to be based on considerations of efficiency and economy, rather than imitations of whites. Many have been encouraged directly by the government out of concern for the health and welfare of the populace.

It may sound from the above as though this educational program is the best of all possible systems. It is my conviction that it is very close to that. It is varied to the demands of the local situation, it provides continuity between the school and the non-school worlds of the child, thus aiding him in developing an integrated conception of himself, of his society and the part he will be able to play in it; it is flexible and relevant; it tends to instill the kinds of motivations, disciplines, self-concepts and world views which are appropriate to the life prospects of the student; and rather than "tarring all students with the same brush" it tends to encourage differential training for students having different abilities and different prospects.

However, it does appear that there is a severe, and potentially very consequential flaw in the system as it is evolving today. The origins of this flaw go back to the period just after World War II. It became apparent at that time that Greenland must change very rapidly in the next few decades, and that this change must involve fluency in Danish for a large and ever increasing proportion of the Greenland population. The reasons for the rapid change need not be elaborated; they include a revolution of rising expectations in Greenlanders resulting from contact with military bases in Greenland during the war, changes in the technology of cod fishing, sensitivity on the part of Danes to the charge of colonialism in their governing of Greenland, signs of nationalism in a handful of Denmark-trained Greenlanders, etc.

It appears to me that the Greenland administration has acted somewhat precipitously, violating the patterns of cultural continuity and cultural synthesis which had guided their educational policy for so long. It is probable that Denmark was preoccupied with problems of the post-occupation readjustments in many sectors of the society. Thus it was not immediately aware of the early postwar changes in Greenland, and awoke late to the need for innovations in the educational system that should have been introduced immediately following World War II, if not during the war. The prime need was obviously the upgrading of the entire educational system. The economy of the area was changing from a subsistence economy to an exchange economy. The upgraded wants of the populace could only be met if it had the cash to satisfy these wants, and this would be forthcoming only if Greenland industries, particularly the fisheries, were able to compete in world markets. This required an increase in the productivity of Greenlander workers which could only be accomplished through mechanization and mass processing – mass fishing, processing and marketing. All of this presumed an upgrading of the technical skills of workers, and this in turn meant higher educational attainments and the learning of new work disciplines. The vehicle for the rapid accomplishment of these changes was the school. But the new learnings which must be transmitted – training in navigation for captains of fishing trawlers and coastwise trading vessels, in marine mechanics of the engineers of these vessels, in machine installation, operation, and maintenance for those responsible for the machinery in the new canneries and fish freezing, and fish meal manufacturing plants, in motor mechanics for maintenance workers in electric power plants, in vehicle garages, etc. – these learnings could not easily be taught in Greenlandic. And if the Greenlandic economy was to become more complex and more closely integrated with that of Denmark, then clearly the most successful Greenlanders must be linguistically equipped to climb the ladder of success in Denmark as well as in Greenland, if they were not to be condemned to employment under a job ceiling which denied higher level jobs to them. Clearly, there must be a very rapid expansion of Danish language training in Greenland schools, as well as an increase in the upper-grade offerings in the system.

It should be emphasized that those changes were in a sense "altruistically" motivated: they were advocated by those seeking to promote the best welfare of the Greenland population. But there are crucially important questions that must be asked of the way in which they were implemented. One possibility would have been to seek to expand the Greenland teacher training facilities, placing special emphasis on Danish language training, and to mount a "crash program" for improving the accuracy and fluency in Danish of the native catechists who as recently as 1952 made up nearly 100 per cent of the teaching staff. A second possibility would have been to depend on Danish teachers, imported from Denmark, to implement the changes in the system desired. A third would have been a compromise, involving upgrading Greenlandic teachers in so far as possible, but importing Danish teachers as specialists in language instruction, in technical subject matter, and wherever else an instructional need could not be met using local teachers.

It is not inaccurate to state that the second alternative was basically the plan followed. The number of Danish teachers in Greenland jumped from one in 1935 to about eighteen in 1950, about seventy in 1956 and about 300 in the fall of 1965. By contrast the effort spent on upgrading the teaching competence of the Greenlander catechist teachers was minimal. As nearly as could be discovered no program at all existed prior to 1962, and as late as the summer of 1965 only a few dozen Greenlanders were enrolled in summer school courses designed to upgrade their competence. Fewer than that number were being sent to Denmark for a full year of training, primarily in Danish language.

It should be emphasized that this massive infusion of the system with Danish teachers did not affect every school, but the reason for this was probably budgetary limitations and problems in recruiting a sufficiently large number of teachers. Occasionally Danish teachers in some very small and very isolated Greenland hamlets could be found in Kulusuq and Kungmuit in East Greenland and Satut in West Greenland, for example.

Perhaps the most destructive aspect of the way in which these Danish teachers were introduced was their status vis-a-vis the catechist teachers in whose stead they were placed. It should be emphasized that a high proportion of the Danes were fresh out of teacher training in the *seminarium:* these were the people whose single status or lack of children made the decision to teach in Greenland free of the complications that it had for older and more mature teachers. Again there were three status possibilities: subservience of the Danish to the Greenlandic teacher, subservience of the latter to the former, or equality of the two. The decision was made to subject the Greenlander to the authority of the Dane. This decision was justified by the more adequate professional training of the latter. It might have been argued that the contrary alternative would be justified on the basis of teaching experience, since many of the catechists had had ten, twenty, even thirty or more years of teaching experience while most of the Danes had had little or none. It could also have been justified on the basis of knowledge of the community, the way of life and the psychology of the people. There have been many examples of Danish teachers inadvertently acting in ways to confuse and impede the education of their pupils, through their ignorance of local folkways and mores. In fact, to declare the formal equality of the two teachers, and to coach the young Danish teachers intensively on techniques of arriving at compromise agreements with their Greenlander colleagues for use when differences arose would perhaps have been best.

The effects of this series of policy decisions have been profoundly consequential, and the repercussions of them must reverberate indefinitely down through the subsequent history of Greenland. The immediate effect was to unseat, and to some extent disgrace the catechist who had been one of the most influential as well as most able men in every hamlet, by placing him in subordination to a "mere boy" perhaps only twenty or twenty-one years of age, but who was Danish. The speed with which school arrangements and curriculum matters were reorganized was eloquent testimony to the disdain felt for the planning and decisions of the catechist. The downfall of the catechist in the eyes of the community was furthered by his own reactive behavior, which not uncommonly included increased drinking and apathy and neglect of duties in the classroom.

Clearly this upsetting of the social structure of the community – since the unseating of a high ranking individual cannot help but have system wide repercussions – was the result solely of fluency in Danish language and mastery of Danish skills. The Danish cultural heritage was virtually magically potent: capable of unseating the mightiest. This conception was furthered of course by the fact that those with Danish fluency qualified for advanced training, often in the storied land of Denmark itself, and were hired for interesting and rewarding positions. Those without fluency found all of the newest and most exciting opportunities closed to them.

The point is that all things Danish tended to become marked as unquestionably superior. Nowhere is this better demonstrated than in the recommendations of the Greenland Council (whose members are all Greenlanders but one) concerning qualifications required of Greenlanders for certification to teach in Greenland. The unanimous decision of this group was that the certification requirements should be exactly the same as in the rest of Denmark. In brief, to qualify for certification a Greenlander would have to be fluent in three languages, Greenlandic, Danish, and English, and to have a reading knowledge of German as well.

The consequences of this decision may be easily anticipated: since the number of Greenlanders able to meet these requirements will be very small, the proportion of Danish teachers in Greenland must increase massively. Because it is already difficult to recruit Danes to teach in Greenland for more than two years, the proportion of very short-term teachers will increase even more sharply. Because these Danish teachers will lack knowledge of the living conditions, and the psychology of the Greenlanders, and so of how to reach the children, they will be less effective. Further, since many of the motivational and disciplinary techniques which are most effective with Danish children serve to alienate Greenlander children, one must perhaps anticipate an increase in the dysfunctional, alienative consequence of schooling. This will occasion the appearance of increasing criminal, conflict, and perhaps apathetic behavior in school alumni, the appearance of behaviors which Clairmont suggests are beginning to emerge in Inuvik in the Western Canadian Arctic. The consequence of such developments tends to be low learning rates and high dropout rates among the alienated adolescents. Lacking many Greenlander teachers to identify with, as the school staffs become more exclusively Danish, Greenlander youngsters must tend increasingly to think of higher education as a purely Danish phenomenon, and so must fail to aspire to similar attainments for themselves.

I must argue, then, that such a course of developments cannot help but be *miseducative* for Greenland as a whole. The inevitable consequence will be an inadvertent, but nevertheless pervasive and persistent caste-type stratification of Greenland society. Skilled and professional positions will tend to be restricted to Danes, especially since a number of studies have shown that for upwardly mobile members of acculturating groups, the teacher's certificate often serves as a springboard into training for the higher professions. Employment of Greenlanders under these circumstances must be increasingly restricted to hard, distasteful, unskilled and semi-skilled work. And Greenlanders as a group must become increasingly impoverished, powerless, and apathetically despairing of the future. The speed of acculturation of the Greenland population, and of their adaptation to the "jet age" twentieth century in which they must increasingly live, will be slowed down.

This analysis does not point toward any villain in the picture to be identified and condemned. It was not the desire of a corporation for profits which led the Northern people astray, as was perhaps true of the encouragement of fur trapping by the Hudson's Bay Company. It was not the narrow, culture bound, professional perspective which was at fault as in the case of those who designed the educational system for Canadian Eskimos. It was simply a judgment as to how the teaching of fluent Danish could best be accomplished which turned out to have significant latent consequences. The increasing import of this language for the acculturation of Greenlanders cannot be questioned.

CONCLUSIONS

My central concern in this paper has been with the acculturation significance of socialization of children in the public school system. I have considered briefly four aspects of the school system: (1) some determinants of the system in terms of the considerations entering into its design; (2) some of the elements of the system, in terms of its features, pedagogic and otherwise, which had acculturation significance; (3) some possible goals of the system, and (4) some of the possible consequences or functions of the system including those which were anticipated and functional and those unanticipated and dysfunctional. I have drawn a contrast between the systems of the Mackenzie District of the Canadian Arctic and of Greenland and have concluded with an evaluation of the Greenlandic system, placing special emphasis on current developments.

To return to a more theoretical level, what generalizations can be made about acculturation and socialization of children in the school? The following statements seem valid in the light of the preceding discussion. When a child grows up in an environment in which there is continuity – in physical facilities, living arrangements, language, primary group daily associates, patterning of interpersonal relationships, skills, values, motivations, disciplines, world views – he is able to identify with role models, internalize values and disciplines, master skills, and grow toward a sequence of goals some proximate, some more distant. Because he has unity, integrity, self-respect as a person, he is adjusted, is able to love and to work, as Freud epigramatically defined adjustment. He is capable of contentment, of conformity, of productivity. Where this is generally true of the populace, the process of acculturation, of synthetic cultural evolution, can take place smoothly, and even with surprising rapidity. Here the new builds on a solid foundation of the old, transforming the old, of course, but piece by piece, stone by stone. There is no wholesale crumbling of the foundation, to which people must react by attempting to hold together that which has been destroyed, or by rejecting all of the past – which may mean much of the only ways of life available to them.

By contrast, when a child grows up in an environment characterized by discontinuity – in physical facilities, living arrangements,language,daily primary group associates (i.e., role models) patterning of interpersonal relationships, skills, values, motivations, disciplines, world views – he is not able to identify with role models, to internalize a coherent set of values and skills, to devote himself to the mastery of skills, or to grow toward a sequence of goals. He must be torn between the way of life of his family and the white, middle-class-oriented, school way of life. In the former, he experienced initial warmth and security, but in the Canadian Arctic he is often prematurely torn from his home and family. However, physical discomfort and privation were often normative in his home. The white middle-class-oriented, school way of life is barren of emotional sustenance. It does of course provide a wealth of distractions from grieving for the warmth and security of the home, and it makes available a comfort-laden luxury of living which the child could not even have dreamed of while at home. But under these circumstances he is not able to achieve a unity: he is two persons, two ways of life. Worse, he is clearly an Eskimo, but nevertheless one who comes to find the "Eskimo way of life" quite distasteful, who soon discovers that he cannot enjoy the "white way of life" to which he has become adjusted because he is not white-like enough. Thus his white aspirant self must come increasingly to condemn his Eskimo self. But for the latter he could live the life he wanted. The result must be a mounting self-hatred, and a deepening of the split within himself. Lacking integrity and self-respect he is unable to love or to work. He is incapable of contentment, conformity or productivity. He lacks the capacity to serve as an agent of creative cultural synthesis.

The recent developments in Greenland seem to me to demonstrate the terrible fragility of the conditions of optimum cultural evolution in dependent underdeveloped areas. This is particularly true when one is changing an institution which has such powerful implications for cultural affirmation and continuity or cultural repudiation and change, and is as centrally linked with the power and prestige structure of the local community, as are the schools of Greenland. To fully appreciate the situation, perhaps it needs to be emphasized that the post-colonial world in which we live is neurotically sensitive to color. Western civilizational achievements are white achievements;

the power they have created is white power. In the stratification of relationships, white power often has the last word, or it is feared that it has the last word. Accordingly the reaction of a native populace to it tends to be compulsive, in affirmation or rejection. To want the Western good life is to want to be white-like in *some* ways. Thus all too easily it becomes, either wanting to be white-like in *all* ways or in *no* ways. The decision of the Greenland Council clearly testifies to the unanimous wish of the Councilors for Greenlanders to be Dane-like in *all* ways, as well as Greenlandic. The impossibility of this goal can only deepen the Danish-Greenlander stratificational difference. This split is recent in Greenland, a post-World II development, but it is sharpening rapidly today. If the lack of mobility between "Danish work" and "Greenlander work" categories increases, as the recent developments foretell that it must, the result must be that the Greenlandic culture becomes a culture of poverty. Escape from this condition could not easily come through the processes of cultural evolution which we have described – the human agents for this cultural evolution would be lacking. It would have to come through cultural revolution, of a kind perhaps best currently exemplified in the Black Muslim and Black Power movements in the United States.

In brief, the carrier of the culture is finally the individual. So long as his integrity, his identity, his ability to identify with the past – as family and as heritage from which he came – and with the future toward which he is oriented is maintained, he is able to continue the process of cultural evolution. If this crucial ability is destroyed, he must react compulsively, usually with loss of capacity for contentment, conformity and productivity. In all "underdeveloped" countries, particularly those under such close western tutelage as is Greenland under Danish tutelage, the school system is the most important agency next to the family, in shaping the child's sense of self. The ways in which it does so may be influenced by the unanticipated consequences of a variety of decisions which appear manifestly to have little direct relevance.

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EDUCATIONAL PROCESS AND SOCIAL CHANGE IN THE NORTHERN ENVIRONMENT

*Frank Darnell**

It is being suggested by some current educational change advocates that the educational approach presently being taken for the "lower" one-third of the nation's school pupils be completely abandoned and new ways found. Neil Sullivan (1966) has gone so far as to suggest that all schools in America's ghettos ought to be closed for six months while all teachers are afforded the opportunity of retraining in the true nature of their pupil's needs and background and new programs are developed. I suggest that such extreme views are equally appropriate when considering the educational problems of the North.

Various authors, such as Ray (1958), Parker (1962) and Salisbury (1966) have documented the ineffectiveness of the present curriculum in Alaskan bush schools and have raised questions about the types of teaching materials and teaching strategies appropriate to the education of Alaskan Native pupils. Others, such as Jenness (1962), Oswalt (1963) and Hughes (1965), have questioned the educational process relative to the nature and extent of the economic potential in the villages and the cultural values of the people.

In recent years various Native groups have been voicing concerns in a much more sophisticated manner than heretofore and making articulate demands for a more meaningful educational experience for their children and a greater voice in determining future educational policy.

And even the political office seeker has discovered the bush school to be an effective emotion generating issue, with various solutions to educational needs presented in his quest for votes.

Thus, many suggestions are heard from many quarters on remedying educational shortcomings and needs. Unfortunately most suggestions have been limited by the financial means to carry them out or, more importantly, have failed because the existing power structure was unable to accommodate change.

Honest recognition of the problems and acknowledgment that changes must be made is the very necessary first step for change. It appears that it is at this step that we now find ourselves. We may hope, therefore, that ques-

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tions generating an awareness of the problems will proliferate. As part of this process, I raise what appear to be three basic questions pertinent to the educational scheme in the North:

1) How may the recent findings in the behavioral sciences, such as cultural anthropology and perceptual and social psychology, be brought to bear on the educational process in Northern bush schools, especially in the attitudes and methods of teachers and cultural relevance of the curriculum?

2) What effect might application of these findings have on the individual Native pupil, especially the extent to which an enhanced self-concept may enable him to succeed where heretofore he has failed to do so?

3) What steps may be taken to effectuate change in the administrative structure of Alaskan rural schools to enable the People themselves to express a fuller and more meaningful voice in deciding educational policy consistent with the needs as they see them?

I have posed the questions on ways that the recent findings in the behavioral sciences might be brought to bear on the educational process in the North. I fear far too many school people, especially those responsible for program implementation or supervision, are just not aware of their implications, or in some cases of the findings. When aware, they are unable to free themselves from the everyday necessities of their work to an extent sufficient to enable implementation.

Obviously, it would be pretentious to attempt answers to these questions in a brief or cursory way. We may, however, attempt to justify the questions by developing some form of rationale for raising them.

It appears that the numerous recent studies of the problems of America's inner city ghetto children apply equally well in many respects to Native children in the North. It may be that the concentrated studies there will bear positively on the Northern environment. I cite in particular the work of Ausubel (1963), Combs (1965) and Bloom, et al, (1966). Hopefully, some of the points set forth by these authors and others might tempt those responsible for Northern schools to initiate new means in their programs.

For example, Ausubel has pointed out:

> "If the limiting effects of prolonged cultural deprivation on the development of verbal intelligence . . . are to be at least partially overcome, better-than-average strategies of teaching are obviously necessary in terms of both general effectiveness and specific appropriateness for his particular learning situation. Yet precisely the opposite state of affairs typically prevails. The learning environment of the culturally deprived child is both generally in-

> ferior and specifically inappropriate . . . Thus, much of the child's alienation from the school is in great measure a reflection of the culminating effects of a curriculum that is too demanding of him, and the resulting load of frustration, confusion, demoralization, resentment, and impaired self-confidence that he must bear."

To overcome this dilemma various approaches might be suggested. I have settled on the four following concepts as a reasonable beginning:

1) According to the findings of Bloom (1966) much of the cognitive ability and style of the child is fully developed by age four, and all but a mere fragment by age eight. Thus, very early childhood education in the villages is suggested as being essential. Much earlier contact with formal education than now being practiced, while awkward to implement, should be insisted upon.

2) We must consider the cultural relevance of the curriculum and its influence on motivational development. I quote Ausubel again to set the theme:

> "Although it is possible separately to consider cognitive and motivational aspects of learning for purposes of theoretical analysis, they are nonetheless inseparably intertwined in any real-life situation. For example, school failure and loss of confidence resulting from an inappropriate curriculum further depress the culturally deprived pupil's motivation to learn and thereby increase his existing learning and intellectual deficit . . ."

Considering this idea we may expect to find bush schools, as presently constituted without an appropriate curriculum, having the exact opposite effect on motivation than the one desired. Culturally relevant materials, on the other hand, might generate motivation of an intrinsic nature. Intrinsic motivation, now largely neglected in many schools, can only be actualized as a result of success and the anticipation of future satisfying experience learned as a result of the initial success. Ausubel contends that it is the development of intrinsic motivation for learning that is the most promising motivational strategy that we can adopt in relation to the culturally deprived child. Certainly when we consider the problems of educational progress relevant to the uncertain economic base in the villages, and the skills half taught to cope with jobs that never existed, it appears that we have been defeating the very cognitive drive we set out to stimulate. The existing job reward type of extrinsic motivation frequently employed in schools has resulted in disappointment and frustration by proving to be shallow and dishonest, has discouraged additional attempts at education by disillusioned individuals, and has set a poor example to younger children, with the outcome that much of the educational process appears to them to be little more than a facade. The carrot on the stick technique is debatable at best; for Northern school children it can cause irreparable harm.

I do not mean to deny extrinsic motivation per se, nor to suggest that it be abandoned, as such motivation may be considered valid providing it is honest. We continually need to seek means to foster prestige and status through job achievement and long-range vocational goals. But until these do become honest and more realistic, I suggest that we concentrate far more energy on intrinsic motivational development through culturally relevant materials. It may be more difficult to demonstrate the value of learning for learning's sake than learning for specific skills and positions, but we have seen rather negative results with the latter and are only beginning to see the potential in the former. Before anyone experiences genuine success, be he child on the Arctic slope, in the inner city ghetto, or suburb of affluent North America, he must achieve a certain level of self-respect through satisfaction of inherent needs.

3) A new emphasis must be placed on the selection of initial learning material geared to the learner's existing state of readiness, as well as his culture. The starting point of any curriculum needs to take into account (but seldom does in Northern schools today) the readiness of the child and consider the existing knowledge, sophistication and intellectual skills of the individual learner, no matter how far down the scale this happens to be.

4) Before new tasks are undertaken by the individual learner, mastery and consolidation of all on-going learning tasks to assure the necessary foundation for successful sequential learning must be assured. This suggests abandonment of the existing lock-step method with social promotion and requires freedom from formal, structured graded programs, in favor of schedules that allow for genuine academic growth. As presently approached, the child in the village is expected from the very outset to meet the same initial standards and expectations as his counterpart in the city and to cope with subject matter on the same level at the same point in time. Such expectations appear to automatically assure failure.

5) And finally, what of the teachers, especially in regard to their attitudes, skills and means in approaching the educational process? Far too many teachers assigned to village schools, regardless of their "good intentions," are without the necessary understanding of the people they seek to serve and have preconceived and erroneous notions of what constitutes "good" teaching when consideration of the specialized social milieu they are entering is taken into account. Too frequently the most well organized (but rigid) teacher presents the fewest problems to the supervisory staff and subsequently is rewarded by promotion. A cycle of similar types is thus developed; sometimes at the expense of the creative but less structured teacher.

There are numerous immediate and practical means to teacher training that partially remedy present shortcomings in the pedagogical background of new teachers destined for the bush, although at present too few teachers come in contact with these means. It is only a matter of time and mechanics to correct these shortcomings and probably we can look forward to more teachers improving in this way.

There is, however, an even more important element in need of development: *The acquisition of empathy for the total perceptual situation as a result of new beliefs and attitudes.* Teacher behavior, according to the research of Combs (1965) is only a symptom. Basic beliefs cause manifestations of behavior; thus we need to treat beliefs, not behavior. Empathy, according to Combs, can be taught; and to become a more effective teacher certain elements of teacher training must be broadened to help a person recognize and accept himself. Without this basic attitude in a teacher, we may assume much teaching will be rigid, sterile and culturally irrelevant. It will continue to be a stereotyped recitation of middle class suburban values, maybe or maybe not "artfully" presented, but always for naught.

If we can find ways to prepare most teachers going to Northern schools so that they have a background in the cultural values of the people, methods of small and remote schools, with non-English speaking students *and, most importantly,* with empathy for the situation, the present inadequate pattern may be improved.

Many problems may develop in seeking new school programs appropriate to these concepts. All require change from the status quo. Changes in goals, in curriculum, in scheduling, and in teaching strategy, all are necessary. It seems fairly safe to assume that little change is seldom brought about by the ongoing establishment. To make substantial change outside agencies are frequently necessary, or a redistribution of power in the establishment is required.

Alaskan bush schools are presently administered by two separate agencies. The Federal Bureau of Indian Affairs, and the Alaska State Department of Education more or less equally divide the total number of pupils for whom they collectively have responsibility. This arrangement has come about through historic accident in the past and economic considerations at present. It is not my purpose to find fault with either agency or the dual system as a whole (a frequent pastime of many looking for a popular cause). What I do suggest, however, is that it will be difficult, to bring about the changes suggested above with the present separation of power.

The recent establishment of a special Department of State Operated Schools headquartered in Anchorage has been a tremendous step forward in bringing about potential for change. The declared policy of the Bureau of Indian Affairs to relinquish more of their operating authority to the State system and recent evidence that this is actually taking place is equally encouraging. With such a favorable climate emerging, I would suggest that the way is now made ready for an even more radical step; namely, meaningful control of the schools by the People themselves.

The changes in educational process discussed above may or may not be valid. There are, of course, other changes that other people are proposing. It appears, however, that these suggestions and the suggestions of others may be much longer before being tried unless there is a shift in power. Thus, if we accept, even in part, a need to redesign the educational process in the North, along any or all of the lines suggested here; and if we agree that the existing power structure cannot always accommodate change – then we are ready for the added essential and basic element in Northern education, viz., the People themselves. They should have the option of suggesting and implementing new ways. New ways are invariably bought at the expense of mistakes and it should not be expected that the changes brought about by the People themselves would be without mistakes; but no more so than those of the established existing structure. But, mistakes or not, the People themselves should be afforded the dignity of deciding the policies that determine the future of their children. From their decisions and actions eventually there is bound to be success, and all that this implies.

It is suggested as a first step toward control by the People that the educational administrative structure as now constituted must be changed to a single administrative unit. Only with a single unit may consistency in policy and educational process be attained. Only with a single agency responsible will the People themselves be able to influence and control the ultimate attitude their educational programs are to assume. The power to bring about change, once a single agency exists, may then be reconstructed in such a fashion that change will be possible. The People themselves, given enough freedom, would be the arbiters. Change would no longer be a threat; it would be a means. With such changes could come the potential for development of the human resources of the specialized Northern environment.

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EDUCATIONAL POTENTIAL OF NORTHERN CANADIAN NATIVE PUPILS

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1. INTRODUCTION

This paper will outline a model of the nature and development of intellectual abilities, present some evidence of both general intellectual potential and differential abilities of Eskimo and Indian–Metis pupils of the Mackenzie District in relation to their White classmates, and consider six psychosocial influences likely to affect development of various cognitive abilities in different cultures.

Abilities may be conceptualized as if organized in a hierarchy from relatively specific abilities at the bottom to general intellectual ability (g) at the top. Just below g are two main group factors, the verbal-educational group (v:ed) and the spatial-mechanical group (k:m). Each of these may in turn be viewed as encompassing several more nearly specific factors, and so on. Vernon (1965) has diagrammed this conceptual model for adolescent and young adult whites. The development of these abilities takes place through a sort of cumulative transfer as innate predispositions interact with environmental conditions. Since environmental conditions may differ considerably from one culture to another, so may the patterning and nature of abilities at all levels of the hierarchy.

2. INTELLECTUAL ABILITIES

2.1 *General Intellectual Potential*

2.1.1 ***Examples of tests.*** Table 2 lists some of the group tests we have used to assess intellectual abilities; the first eight listed use designs and geometric figures (and sometimes numbers) as stimuli, while the remainder are more usual school-like tests.

2.1.2 ***Samples.*** Data will be reported here for two groups of samples. The Mackenzie Norming Sample consisted of 792 Indian-Metis, 510 Eskimos, and 709 Whites who were representative of pupils attending Grades 1 to 8 of the schools of the Mackenzie District. Particular reference will be made to more extensive study of Eskimos and Whites at Inuvik and Tuktoyaktuk, and Indian–Metis at Faust, Alberta, in age 9 to 12 and 12½ to 15½ samples, as described in Table 1.

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Table 1

Some Descriptive Data for Six Samples

		EskY	EskM	WhY	WhM	IMY	IMM
N		87	80	33	30	56	54
Age	Mean	10–9	13–8	10–3	13–6	10–7	13–10
	Range	8–6 to 12–2	12–3 to 15–8	8–6 to 12–2	12–3 to 15–8	8–9 to 12–2	12–4 to 15–5
Sex	Male	61	36	20	18	31	28
	Female	26	44	13	12	25	26
Grade	Mean	3.3	5.4	4.3	7.4	3.9	6.5
	Range	1 to 6	2 to 8	3 to 5	5 to 8	2 to 6	3 to 8
SES	Mean	38	38	53	52	39	38
	Range	30 to 57	30 to 60	32 to 65	32 to 75	30 to 57	30 to 57
No. in Hostel		37	41	1	1	0	0

Note – Of the Eskimo samples, about 40% spoke Eskimo in their homes most or all of the time, while 54% did so a small part of the time. Of the Indian–Metis samples, about 41% spoke Cree in their homes most or all of the time, while 48% did so a small part of the time. Of the White samples, 80% used English in their homes all of the time, while 20% used another language a small part of the time. Socioeconomic status was as assessed on the Blishen Scale, which for all of Canada has a mean of 50 and a standard deviation of 10.

2.1.3 *Validity as measures of general intellectual potential.* Table 2 shows that for Eskimos, White and Indian–Metis age 9 to 15 who are in school, almost all of the measures of that table, including the first-listed tests like Progressive Matrices which use nonverbal stimuli, are highly loaded on the same general intellectual ability factor that runs through traditional school-like abilities considered basic to our technological society.

Table 2

Unrotated First Principal Factors

Tests	EskY	EskM	WhY	WhM	IMY	IMM
1. Embedded Figures (Vernon)	.66	.76	.78	.79	.72	.63
2. Progressive Matrices Std.	.67	.79	.90	.77	.68	.86
3. SCRIT Scale 1	.58	.51	.66	.48	.65	.79
4. MAC 2	.60	.49	.73	.16	.61	.50
5. Lorge—Th.Lvl.3 NV1	.66	.60	.72	.44	.54	.60
6. Lorge—Th.Lvl.3 NV2	.83	.83	.83	.72	.74	.76
7. Lorge—Th.Lvl.3 NV3	.74	.68	.78	.55	.63	.77
8. IPAT Test of g Scale 2	.73	.47	.77	.59	.62	.69
9. Letter and Number Induction	.81	.85	.83	.86	.83	.88
10. Word Memory, Written*	.58	.40	.18	.47	.71	.60
11. Otis Mental Ability Beta**	.75	.86	.90	.78	.77	.73
12. Vocabulary, Written	.81	.74	.81	.74	.85	.72
13. Arithmetic	.91	.89	.88	.80	.90	.71
14. Reading Comprehension	.82	.77	.88	.56	.86	.85
15. English Usage, Written	.88	.83	.86	.55	.77	.82
16. Spelling	.80	.83	.82	.70	.85	.75
17. Information Memory, Oral	.82	.73	.73	.60	.89	.49
18. Grade	.89	.86	.70	.69	.81	.71
Proportion of Total Variance	.57	.53	.61	.41	.57	.52

*For Faust Samples CTMM Non-Lang.
**For Faust Samples CTMM Verbal.

There is considerable additional evidence for the validity of such tests as Progressive Matrices as measures of general intellectual potential; for the Tuktoyaktuk Grade 6 to 8 class, for example, Progressive Matrices correlated 0.72 with the teacher's ranking of the pupils for "brightness."

2.1.4 *Norms.* Such measures are of little practical use unless suitable norms are available. *Mackenzie District Norming Project* (MacArthur, 1965). presents age norms for Eskimo, Indian–Metis and Whites separately for several of these measures, based on samples of Grades 1 to 8 pupils representative of the Mackenzie District.

2.1.5 *Overlap of ethnic groups in general ability.* Table 3 shows percentiles from the Mackenzie Norming Project on Coloured Progressive Matrices for ages 7 and 9 years, and Standard Progressive Matrices for ages

11 and 13 years for Eskimos, Indian–Metis, and Whites. The 50th percentiles show that for all four age groups the average of Whites is higher (on this test constructed by Whites from a background of White concepts). *But,* for the 7– and 9–year olds, note the great overlap of the scores of native pupils with scores of the Whites; of these young native pupils, as indicated by their 90th percentiles, many scored well above the average Whites. However, for the 11– and 13–year olds the overlap decreases considerably, with fewer than ten percent of native pupils scoring above the average Whites.

If the validity data presented here and elsewhere of Progressive Matrices as a measure of general intellectual ability for such pupils is accepted, one clear conclusion is that large proportions of Canadian native pupils of *early* school age have the general intellectual potential necessary to participate fully in the larger Canadian community.

Table 3

Percentile Norms for Three Ethnic Samples on Progressive Matrices

From Mackenzie District Norming Project

		10th Percentile	50th Percentile	90th Percentile
Age 7	**Eskimo**	**12**	**18**	**25**
	Indian–Metis	**9**	**16**	**25**
	White	**14**	**20**	**29**
Age 9	**Eskimo**	**14**	**22**	**31**
	Indian–Metis	**15**	**21**	**31**
	White	**18**	**26**	**33**
Age 11	**Eskimo**	**14**	**26**	**38**
	Indian–Metis	**14**	**28**	**38**
	White	**26**	**42**	**49**
Age 13	**Eskimo**	**18**	**35**	**45**
	Indian–Metis	**22**	**35**	**44**
	White	**27**	**44**	**52**

2.2 *Differential Abilities*

2.2.1 *Factor patterns.* Promax oblique primary factor analyses of the ability measures of Table 2 indicated, for both Eskimo age 9 to 12 and 12½ to 15½ groups, two rather highly correlated common factors, a clear v:ed factor and one here labelled reasoning from nonverbal stimuli (but resembling a k:m factor). Very similar factor patterns were obtained for the Indian–Metis and the Whites, although with somewhat more differentiation of abilities (more common factors) for the latter.

2.2.2 *Differential abilities relative to Whites.* Table 4 shows the mean scores for each of the native samples expressed in T-score norms based on the younger White sample. In general, abilities least affected by differences in native and white backgrounds were those assessed by tests highly loaded on the reasoning-from-nonverbal-stimuli factor, and those most affected were assessed by tests loaded on the v:ed factor. But spelling and word memory tests showed little bias against native pupils; this relatively low ethnic bias in verbal memory as contrasted with high ethnic bias in comprehension of reading and oral English suggests need for care on the part of teachers of native pupils lest mere reproduction of printed materials be misinterpreted as understanding of the materials.

Table 4

Mean T-scores Based on Whites Age 9 to 12

(Sample WhY Means are 50, S.D. 10, for each test.)

Test	Sample				
	EskY	EskM	WhY	IMY	IMM
Embedded Figures	47	55	50	43	51
Word Memory, Written	46	57	50	–	–
Spelling	47	53	50	–	–
Progressive Matrices Std.	44	51	50	40	48
Lorge–Th.Lvl.3 NV1	46	52	50	39	46
MAC 2	43	52	50	40	50
Letter and Number Induction	45	50	50	40	45
IPAT Test of g Scale 2	44	48	50	36	47
Lorge–Th.Lvl.3 NV2	43	49	50	37	44
SCRIT Scale 1	42	48	50	37	43
Information Memory, Oral	42	46	50	42	46
Lorge–Th.Lvl.3 NV3	41	48	50	33	43
Arithmetic	41	52	50	–	–
English Usage, Written	42	47	50	–	–
Vocabulary, Written	41	44	50	–	–
Otis Mental Ability Beta	41	44	50	–	–
Reading Comprehension	39	44	50	–	–

Note – Within groups, a difference of 2 may be considered significant at the .05 level, very approximately.

2.2.3 ***Relative decline with age.*** Using scores for all three ethnic groups expressed in T-score norms based on the young Whites, the White increase with age from the mean of the younger to the mean of the older group was compared with the corresponding increase for each native group, as shown in Table 5. As they grow older the native pupils slip steadily behind their white classmates in most educational abilities, but more in the v:ed loaded tests, with the exception of word memory, than in those loaded on the reasoning-from-nonverbal-stimuli factor.

Table 5

Native Decrease in Ability Means with Age, Relative to Whites

Test	Eskimo			Indian–Metis		
	White Increase with Age less Eskimo Increase	z	p[a]	White Increase with Age less I–M Increase	z	p[a]
Vocabulary, Written	7.1	2.76	.01			
Otis Mental Ability Beta	6.4	2.71	.01			
Arithmetic	6.6	2.32	.02			
Spelling	5.2	1.90	.06			
English Usage, Written	4.2	1.72	.09			
Reading Comprehension	3.3	1.42	.16			
Information Memory, Oral	2.7	1.22	.22	1.8	.78	.44
Progressive Matrices Std.	3.1	1.14	.25	2.1	.75	.45
Lorge–Th.Lvl.3 NV1	2.6	0.87	.38	1.4	.47	.64
IPAT Test of g Scale 2	2.0	0.67	.50	–4.4	–1.47	.14
Embedded Figures (Vernon)	1.5	0.52	.60	1.8	.62	.54
Letter & Number Induction	1.2	0.50	.62	1.5	.60	.55
Lorge–Th.Lvl.3 NV3	0.3	0.11	.91	–2.6	–.93	.35
Lorge–Th.Lvl.3 NV2	–0.5	–0.20	.84	–1.7	–.68	.50
Word Memory, Written	–1.0	–0.37	.71			
SCRIT Scale 2	–1.6	–0.49	.62	–2.2	–.66	.51
MAC 2	–1.9	–0.64	.52	–3.3	–1.09	.28

Note – [a] Each p is in effect the two-tailed probability of an uncorrelated difference of an uncorrelated difference.

This suggests, if native youth are to more fully realize their potential to join in the larger community, more emphasis in the curricula of schools and other training institutions on written and oral comprehension and expression of English as *subjects* of instruction, and more use of nonverbal stimuli as *media* of instruction (both very costly procedures).

3. PSYCHOSOCIAL INFLUENCES

But as a youngster grows up what he does with his abilities, and how his abilities themselves further develop, depend upon interaction between him and the people around him – his school, his home, the adults about him, his playmates. However, in the delineation of the main dimensions of what might be called the psychosocial environment as if may influence abilities, and in evolving devices for assessing along these dimensions, much research needs to be done. In the interim, from research conducted in a number of parts of the world, the following six psychosocial variables may be suggested as among the most important in shaping the development of young people's abilities.

3.1 *Achievement motivation.* – the intellectual and vocational aspirations of and for the child, the range of appealing adult models with whom to identify. Intelligence depends on the future as well as the past. And here it is most important that immediate goals be those close to immediate interests and appearing attainable, but whose attainment moves in the direction of wider horizons.

3.2 *Planfulness.* – immediate gratification of basic biological needs vs. internal controls for delayed gratification of reasoned aspirations; harsh or inconsistent discipline vs. permissive but impulse-controlled discipline; impulsive vs. rationale climate.

3.3 *Initiative and curiosity.* – emphasis on passive conformity, obedience, tradition, dependence vs. encouragement of active problem-solving, resourcefulness, initiative, field-independence.

3.4 *Conceptual stimuli.* – education of parents and siblings; opportunities for varied direct experience with the world and vicarious experience through books, radio, TV, etc.

3.5 *Language.* – lack of facility in language of instruction, debased home language and restricted language codes vs. elaborated language codes allowing fine discriminations in thought and language.

3.6 *Health and nutrition.* – debilitating diseases, malnutrition, sanitation and medical care.

It is in improving on such influences in their surroundings that we can help young people take advantage of the capabilities they do have.

4. SOME NEXT RESEARCH STEPS

But it must be stressed that the foregoing overview of psychosocial influences on cognitive development is very tentative and general. How these suggested dimensions and their sub-dimensions interrelate and pattern for particular peoples is little known; there is need for specific research on what particular psychosocial influences affect the development of what particular abilities, and for our particular native peoples. The focus of developmental, social, and psychometric psychology on this problem in any comprehensive way is as yet but in its infancy.

As a small step in this direction the writer is planning an investigation of the interaction of particular psychosocial influences with particular cognitive abilities for Eskimo in the Igloolik area of Canada, with replication in Upernavik in Greenland, with Africans in Zambia, and with a reference group of Alberta Whites. This will be part of the International Biological Programme, which is a 50-nation 8-year research program, the Human Adaptability Section of which is concerned with study, using standard procedures so that data may be exchangeable on a world-wide basis, of the variety of stresses to which man is exposed and his capacity to adapt to these stresses. In the International Study of Eskimos, as part of IBP, Canadian scientists will study Eskimos at Igloolik near Baffin Island, American scientists will study Eskimos at Wainwright in Alaska, and Danish and French scientists will study groups of Eskimos in Greenland, each national team using standard IBP procedures in its data collection. The Canadian team plans studies in the fields of genetics, demography, epidemiology, anthropometry, nutrition, ecology, physiology, and psychology; ISE should throw considerably more light on the correlates of the development of various cognitive abilities.

5. SUMMARY

Four points have been emphasized concerning the educational potential of northern Canadian native pupils:

5.1 Large proportions of native Canadian pupils of *early* school age *have* the general educational potential necessary to participate fully in the larger Canadian community.

5.2 With regard to differential abilities, native teenagers tend to slip further behind their white classmates in most cognitive abilities but especially in those of a verbal comprehension nature. This suggests, if native youth are to more fully realize this potential, more emphasis in curricula on written and oral English as *subjects* of instruction, and more use of nonverbal stimuli as *media* of instruction.

5.3 Young people can be helped to take advantage of their capabilities by improvement of such psychosocial influences in their surroundings as achievement motivation, planfulness, initiative and curiosity, conceptual stimuli, language, and health and nutrition.

5.4 The International Study of Eskimos, as part of the International Biological Programme, should throw considerably more light on the relation of a large number of particular environmental variables to the development of particular cognitive abilities.

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